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Functional recovery of a volumetric skeletal muscle loss injury using mesenchymal stem cells in a PEGylated fibrin gel seeded on an extracellular matrix

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Functional recovery of a volumetric skeletal muscle loss injury using mesenchymal stem cells in a PEGylated fibrin gel seeded on an extracellular matrix

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Dedication

To my family, without their love and support none of this would have been possible.

Abstract

Functional recovery of a volumetric skeletal muscle loss injury using mesenchymal stem cells in a PEGylated fibrin gel seeded on an extracellular matrix

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This study investigated the effect of bone marrow derived mesenchymal stem cells (MSCs) in a PEGylated fibrin gel (PEG) seeded into a decellularized extracellular matrix (ECM) on recovery of skeletal muscle following a volumetric muscle loss (VML) injury. Six to nine month old male Sprague-Dawley rats were used in this study. Approximately one-third of the skeletal muscle mass of the lateral gastrocnemius (LGAS) was removed from the LGAS, which was immediately replaced with an acellular ECM of the same dimensions. Seven days after injury, animals were injected with one of four solutions: saline (SAL), MSCs (MSC), PEGylated fibrin hydrogel (PEG), or MSCs in PEG (PEG+MSC). Maximal isometric tetanic tension (Po) of the LGAS was assessed fifty-six days after VML injury, followed by histological evaluation. VML injury resulted in a

functional impairment of the LGAS capable of producing 76.1± 4.9% of the force generated in the non-injured contralateral LGAS. Tetanic tension of the PEG+MSC treated group was significantly higher compared to all other treatment groups ($p < 0.05$), although specific tension (N/cm^2) in the PEG+MSC group (79.7±4.0%) was only significantly higher compared to SAL (58.2±3.0) and PEG (64.0±2.1%) treated groups ($p < 0.05$). However, LGAS mass was significantly higher in the PEG+MSC group compared to all other groups ($p < 0.05$). These findings suggest the combination of the PEG+MSC did not lead to a significant increase in muscle function compared to MSC treatment alone, and demonstrates the importance of MSCs in skeletal muscle regeneration in VML injury models. However, as evident by the significant increase in LGAS mass, PEG+MSC treatment may lead to histological differences not evaluated in this study. Gross morphology of the repaired gastrocnemius was indistinguishable from the contralateral control.

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INTRODUCTION

Skeletal muscle cells are stable, post-mitotic, multi-nucleated cells with a robust regenerative capacity. Under normal conditions, skeletal muscle has the ability to repair itself by activation of resident satellite cells. Activated satellite cells will proliferate and differentiate toward a myogenic lineage, eventually maturing into a new myofiber or fusing with existing muscle cells (Hill, M. et al., 2003; Mauro, A., 1961). During traumatic muscle injuries where a large piece of muscle mass is lost, activation of satellite cells and other resident stem cells is insufficient for complete restoration due to either fibrotic tissue formation between transected ends or the gap between remnants is too large for regeneration (Terada, N. et al., 2001). Volumetric muscle loss (VML) is a loss of skeletal muscle mass which results in a functional deficit (Grogan, B. F. & Hsu, J. R., 2011). This type of traumatic injury to skeletal muscle is often seen in military personnel wounded in combat by gunshots and improvised explosive devices (IEDs), and is also seen as a result of surgeries in which a large portion of muscle must be removed. Complete functional and aesthetic repair of VML injuries poses a challenge to medical surgeons and physicians due to loss of skeletal muscle, extracellular matrix, nerve, and vascular tissues. Without scaffolding in which native cells can adhere, it is difficult to close the gap between residual muscle pieces and restore aesthetics and function. Current clinical applications include autologous muscle transfers to restore function in the elbow and hand, (Barrie, K. A. et al., 2004; Chuang, D., 2010) but this requires

precise microvascular surgery to link transplanted vasculature with existing vasculature at the injury site, and is associated with lose of tissue or death. Trapezius muscle transfers to treat shoulder paralysis have been ineffective in completely restoring function due to the high complexity of the shoulder (Terzis, J. K. & Barmpitsioti, A., 2011). Recently, a porcine small intestinal submucosa (SIS) extracellular matrix (ECM) was implanted into a skeletal muscle defect in the quadriceps of a patient (Mase, V. J., Jr. et al., 2010). Thirty-six weeks post implantation, a CT scan showed new tissue formation within the implanted ECM and the patient demonstrated improvement in isokinetic function. However, new muscle tissue formation throughout the ECM could not be confirmed via MRI, nor was it confirmed through histological analysis.

The use of a decellularized extracellular matrix (ECM) as a biological scaffold is an attractive approach to tissue regeneration because it is naturally occurring, and known to be a regulator and stimulator of skeletal muscle repair (Badylak, S. F., 2007; Osses, N. & Brandan, E., 2002; Turner, N. J. et al., 2010). Decellularization removes most antigens that may invoke a host response following implantation and retains biodegradability and biocompatibility of the scaffold because host cells produce their own matrix (Borschel, Dennis et al. 2004; Badylak 2007). Additionally, the construct's three-dimensional structure is retained and may include residual myotube, neural, and vascular pathways that may promote myofiber infiltration and neurovascular growth (Borschel, G. H. et al., 2004; Gillies, A. R. et al., 2011). In

addition, degradation products released during remodeling of the ECM leads to the recruitment of progenitor cells to the remodeling site (Beattie, A. J. et al., 2009) .

Although satellite cells are the primary stem cells involved in muscle repair, they are not the only progenitor cells capable of contributing to muscle regeneration. Another group of cells, mesenchymal stem cells (MSCs), are multipotent stem cells that have been shown to contribute to the repair process following musculoskeletal injury (Abedi, M. et al., 2007; Drapeau, C. et al., 2010; LaBarge, M. A. & Blau, H. M., 2002; Merritt, E. K., Cannon, M. V., et al., 2010; Palermo, A. T. et al., 2005; Shabbir, Arsalan et al., 2009; Sun, D. et al., 2009). Donor MSCs became incorporated into skeletal muscle and were found occupying the satellite cell niche in dystrophic *mdx* mice (Bittner, R. E. et al., 1999; Corti, S. et al., 2002; Fukada, S. et al., 2002; LaBarge, M. A. & Blau, H. M., 2002). In one study, bone marrow MSCs were found occupying the satellite cell pool following irradiation-induced damage. Furthermore, in the same study, satellite cell MSCs participated in skeletal muscle regeneration following exercise-induced damage (LaBarge, M. A. & Blau, H. M., 2002). Mesenchymal stem cells have also been shown to mobilize from the bone marrow and engraft into skeletal muscle in response to eccentric muscle damage and muscle overload (Palermo, A. T. et al., 2005). Additionally, MSCs can contribute to regeneration of other tissues such as nerves and blood vessels that are necessary for skeletal muscle regeneration following VML injury (Dezawa, M., 2005;

Guiducci, S. et al., 2010; Jiang, Y. et al., 2002; Ladak, A. et al., 2011; Prockop, D. J., 1997; Wakitani, S. et al., 1995).

Previous studies in our lab have shown implanting an acellular ECM into a VML injury is capable of supporting myofiber and blood vessel ingrowth, but is incapable of completely restoring muscle function (Merritt, E. K., Hammers, D. W., et al., 2010). In a follow-up study, MSCs were injected into the implanted acellular ECM. Forty-two days post recovery, muscle function was restored to 94% of the contralateral leg. However, upon immunohistological analysis, a hypoxic core void of myofibers and blood vessels was found within the center of the ECM, which is believed to be limiting complete functional and morphological recovery (Merritt, E. K., Cannon, M. V., et al., 2010).

Long-term viability of muscle regeneration upon 3-D scaffolds is dependent on vascularization and innervation of the scaffold to support cellular infiltration. PEGylation, chemically conjugating polyethylene glycol (PEG) to oligo(peptides) derived from cell-adhesion promoting proteins such as fibrinogen, has been used in the pharmaceutical industry for years. When used as a vehicle for MSC delivery in a rat infarct model, PEGylated fibrin patches increased MSC viability, proliferation, promoted tube-like formations, and upregulated endothelial cell markers (Zhang, Wang et al. 2006;(Zhang, G. et al., 2010; Zhang, G. et al., 2006). PEGylated fibrin hydrogels provide a favorable environment for MSCs. The exact mechanisms in which PEGylated fibrin increases cell viability and proliferation is unknown, but PEG

is believed to mimic the native 3D extracellular matrix, allowing for cell-cell and cell-matrix interactions.

Therefore, the purpose of the present study was to investigate the effects of MSCs in a PEGylated fibrin hydrogel injected into a skeletal muscle ECM on functional and morphological recovery of VML injury.

LITERATURE REVIEW

SKELETAL MUSCLE REPAIR

It is well known that skeletal muscle has a robust capacity to regenerate new muscle fibers. Regeneration mainly relies on activation of resident mononuclear, myogenic satellite cells localized between the basal lamina and muscle fiber membrane (Mauro, A., 1961). The phases of the repair process are similar despite the type of injury that occurs, however, the ability of a muscle to fully heal itself following injury is dependent on the type and severity of the injury. Although, even with less severe injuries, complete regeneration does not always occur (Huard, J. et al., 2002). Regeneration of skeletal muscle can be divided into three sequential, but overlapping phases: the destruction phase; repair phase; and remodeling phase (Jarvinen, T. et al., 2005).

The destruction phase:

Upon muscle injury, the sarcoplasm of the muscle fiber is torn, forming a gap and hematoma between the ruptured muscle fibers, and leading to a calcium influx and activation of calcium-dependent proteases that lead to necrosis of the muscle fiber. To prevent complete necrosis of the myofiber, a contraction band of cytoskeletal proteins form a barrier at the edge of the injury to close off the cell from the outside environment (Hurme, T., Kalimo, H., Lehto, M., et al., 1991). Complement cascade activation leads to the chemotactic recruitment of neutrophils initially, which are then later followed by macrophages. These phagocytes act as scavengers

to remove necrotic tissue, cellular debris, and the blood clot via phagocytosis (Cannon, J. G. & St Pierre, B. A., 1998; Hurme, T., Kalimo, H., Lehto, M., et al., 1991). In addition to their role as scavengers, macrophages have been show to play an active role in promoting muscle regeneration. When macrophages invade the injured site they undergo a sequence of phenotypic changes (Chazaud, B. et al., 2009). First, pro-inflammatory M1 phenotype macrophages invade the injury site, releasing pro-inflammatory cytokines, phagocytizing necrotic tissue, and promoting satellite cell activation and proliferation. A macrophage phenotypic change from a M1 phenotype to M2 phenotype then occurs, which reduces tissue inflammation and necrosis by releasing anti-inflammatory cytokines, and promoting satellite cell differentiation and cell fusion (Arnold, L. et al., 2007; Tidball, J. G. & Villalta, S. A., 2010).

The skeletal muscle extracellular matrix (ECM) is also damaged upon injury. The ECM is known to store inactive growth factors, and disruption of normal tissue integrity results in activation and release of the ECM bound growth factors, which also play a role in the skeletal muscle repair process (Cannon, J. G. & St Pierre, B. A., 1998; Jarvinen, T. et al., 2005)

The repair phase

Once the necrotic tissue is being phagocytized, the repair process begins with two simultaneous processes: the regeneration of myofibers and connective tissue scar formation (Jarvinen, T. et al., 2005). During the repair phase, nerve, blood vessels, and muscle fibers begin to infiltrate the site of injury (Jarvinen, T. et al.,

2005). Activated satellite cells migrate and differentiate, becoming myoblasts that fuse with existing myofibers or other myoblasts to become new skeletal muscle (Bischoff, R., 1997; Hurme, T. & Kalimo, H., 1992; Sun, D. et al., 2009). Satellite cells are not the only progenitor cells capable of participating in skeletal muscle regeneration. Ferrari et al, demonstrated that nonmuscle stem cells isolated from bone marrow also participate in muscle regeneration by identifying donor derived myogenic cells within host musculature (Ferrari, G., 1998). It has also been demonstrated that bone marrow derived cells not only contribute to regenerating myofibers but also to the muscle satellite cell pool (LaBarge, M. A. & Blau, H. M., 2002). In addition to resident satellite cells, there is another population of muscle stem cells, termed muscle-derived stem cells, which can give rise to myoblasts and differentiate into myotubes (Charge, S. B. P., 2004). Bone marrow and muscle-derived stem cells can arrive from remote locations and contribute to the regenerative process by undergoing myogenic differentiation or by secreting paracrine growth factors that act on surrounding cells (Quintero, A. J. et al., 2009; Sun, D. et al., 2009; Tedesco, F. S. et al., 2010)

Within the first day of muscle injury, early granulation tissue is deposited, an initial ECM that acts as a scaffold for invading fibroblasts, closing the gap between the ends of the myofiber, and providing the injured site with the initial strength to withstand tensile forces (Hurme, T., Kalimo, H., Lehto, M., et al., 1991; Hurme, T., Kalimo, H., Sandberg, M., et al., 1991; Jarvinen, T. et al., 2005). The invading

fibroblasts then start to synthesize the ECM needed to restore the connective tissue framework (Hurme, T., Kalimo, H., Lehto, M., et al., 1991; Lehto, M. & Jarvinen, M., 1985). Most skeletal muscle injuries heal without formation of a debilitating fibrous scar, however, in more severe injuries with volumetric muscle loss, a dense scar tissue will form between the transected ends of the muscle. This dense scar will hinder complete muscle regeneration by becoming a barrier and preventing the newly regenerating myofibers from closing the gap and fusing to regenerating fibers on the other side (Jarvinen, M., 1975, 1976b).

The vascularization and innervation of newly regenerating muscle fibers is critical to the morphological and functional recovery of the injured muscle (Jarvinen, M., 1976a). Blood vessel formation (angiogenesis) occurs when adjacent blood vessels branch and extend into the injured tissue or by recruitment of endothelial progenitor cells from the bone marrow (Carmeliet, P., 2005). Satellite cell activation, proliferation, differentiation, and fusion can occur in the absence of nerve. However, in order for newly regenerated muscle fibers to grow and mature, the presence of a nerve is required. If neuromuscular junctions are not established, regenerating myofibers will atrophy and die (Borisov, A. B. & Carlson, B. M., 2000; Rantanen, J. et al., 1995).

The remodeling phase

The remodeling phase, an extension of the repair phase, is characterized by reorganization of the myofibers, remodeling of scar tissue, and functional

restoration. The new myofibers formed by invading myogenic precursor cells mature and form attachments to the surrounding extracellular matrix. These myofibers grow and extend into the scar tissue, and over time the scar tissue decreases in size, bringing the muscle stumps closer together until the myofibers become interlaced with the ECM and possibly fuse (Kaariainen, M. et al., 2000; Kaariainen, M. et al., 1998; Vaittinen, S. et al., 2002).

The skeletal muscle repair process described above is not sufficient for complete recovery in traumatic injuries such as volumetric muscle loss (VML) injuries, where a large piece of muscle mass is lost. The repair process will fail to repair the injury, resulting in dense scar tissue formation, denervation of muscle distal to the defect, and loss of muscle function (Aarimaa, V. et al., 2004; Crow, B. D. et al., 2007; Menetrey, J. et al., 1999). The injury model employed in this study is VML, in which the body's natural repair process is incapable of healing on its own. This study will evaluate a novel therapy to enhance morphological and functional recovery.

VOLUMETRIC MUSCLE LOSS

Overview

Volumetric muscle loss (VML), the loss of skeletal muscle mass, usually results in a significant loss of muscle function, cosmetic deficits, emotional distress, and often a permanent handicap (Grogan, B. F. & Hsu, J. R., 2011). VML can occur in

the military population as a result of combat wounds from gunshots and improvised explosive devices, and the civilian population as a result of auto accidents, tumor excision, and diabetic tissue removal. The extensive loss of full-thickness skeletal muscle architecture creates a gap between the transected muscle stumps and renders the injury site unable support regeneration by the body's natural repair processes. If the gap between the transected ends is too large, the neighboring skeletal muscle fibers cannot bridge across to close the gap. As a result, a dense connective tissue scar forms, making it impossible for neighboring muscle fibers and blood vessels to pierce through to the other side (Terada, N. et al., 2001). Complete functional and aesthetic repair of VML injuries poses a challenge to medical surgeons and physicians due to the loss of not only skeletal muscle, but extracellular matrix, nerve, and vascular tissues as well. Without the proper scaffolding in which native cells can adhere, it is difficult to close the gap between residual muscle pieces and restore aesthetics and function. Therefore, therapeutic treatments for VML injuries should focus on enhancing the skeletal muscle repair processes and/or inducing myogenesis of functional skeletal muscle. The replacement of lost tissue with a biological scaffold capable of supporting in growth of cellular materials is a major area of study in regenerative medicine.

Current therapies

Current clinical treatment of VML injuries involves surgical muscle transfer, however, this requires precise microvascular surgery to link transplanted

vasculature with existing vasculature at the injury site. In addition, these procedures are often associated with poor engraftment, donor-site morbidity, failure to restore function, and are not applicable to large defects of load-bearing muscles (Friedrich, J. et al., 2001; Norris, B. & Kellam, J., 1997).

Commercially available synthetic scaffolds such as Dexon, Prolene, and Mersiline are currently used for abdominal wall reconstruction. The availability and high reproducibility of synthetic scaffolds make them an attractive approach to muscle defect repairs. However, synthetic scaffolds tend to elicit an inflammatory response, fail to allow full incorporation of host tissues, and are often associated with complications (Meintjes, J. et al., 2011).

Biological scaffolds composed of extracellular matrix (ECM) have been used to repair diseased and damaged tissues including cardiac (Badylak, S. et al., 2003; Kochupura, P. V. et al., 2005), urinary bladder (Kropp, B. P. et al., 1996), esophageal (Badylak, S. F. et al., 2011), and skeletal muscle (Machingal, M. A. et al., 2011; Mase, V. J., Jr. et al., 2010; Merritt, E. K., Cannon, M. V., et al., 2010; Merritt, E. K., Hammers, D. W., et al., 2010). Biological scaffolds are derived from mammalian species such as bovine, porcine, and human. Tissues including small intestinal submucosa, skin, urinary bladder, and muscle, are harvested, decellularized and sterilized such that all that remains is an ECM void of cellular material and soluble proteins. In spite of this, most commercially available ECM constructs contain trace amounts of DNA; so the use of xenogenic scaffolds in humans is of concern due to the risk of pathogen

transmission and immunological rejection. However, it appears unlikely that the remaining traces of DNA fragments contribute to a host response (Gilbert, T. W. et al., 2009). Furthermore, ECM components are highly conserved across species.

In a recent clinical trial conducted by Mase et al., a decellularized porcine small intestinal submucosa (SIS) extracellular matrix (ECM) was implanted into a skeletal muscle defect in the quadriceps of a patient. Thirty-six weeks post implantation, a CT scan showed new tissue formation within the implanted ECM and the patient showed marked improvement in isokinetic function. However, myofiber infiltration throughout the entire ECM could not be confirmed with an MRI, and histological confirmation with a muscle biopsy was not performed. In addition, SIS ECMs are very thin sheets stacked upon one another, and, therefore, may not repair full thickness skeletal muscle wounds commonly seen in VML injuries. Therefore, it is possible the regenerated muscle observed in this study merely served to transmit force across the muscle gap. Furthermore, although there were significant improvements in isokinetic function compared to pre-implantation values, they were still drastically lower compared to the contralateral leg.

EXTRACELLULAR MATRIX AS A BIOLOGICAL SCAFFOLD

Skeletal muscle relies heavily upon its extracellular matrix (ECM) for organization, structural support, and mechanical function (Clark, K. A. et al., 2002). The ECM is a tissue-specific, three-dimensional structure that primarily consists of

type IV collagen, heparin sulfate proteoglycans, glycoproteins (e.g. laminin) and glycosaminoglycans. The ECM provides cells with signals directly through the binding of integrins (Mayer, U., 2003) to the ECM. The differential expression of integrins regulates the activation, proliferation, and differentiation of progenitor cells (Brzoska, E. et al., 2006; Velleman, S. G. & McFarland, D. C., 2004). Duchenne's muscular dystrophy (DMD), a disease in which the link between the muscle fiber cytoskeleton and ECM is destabilized and the sarcolemma becomes brittle, illustrates the importance of ECM to proper muscle function. Patients with DMD experience progressive muscle wasting and weakness that eventually leads to premature death. It is believed that the destabilized ECM and weak sarcolemma are less resistant to mechanical stresses, which leads to repeated bouts of degeneration and regeneration and fibrosis formation (Reugg, M. & Glass, D., 2011).

The ECM has proven to be critical for myogenesis. For instance, the inhibition of collagen synthesis has been shown to inhibit cultured myoblast differentiation (Nandan, D. et al., 1990). Similarly, blocking the function of integrins with specific peptides or antibodies has been found to inhibit myogenic differentiation (Menko, A. S. & Boettiger, D., 1987). When ECM deposition is blocked, C2C12 cells will not differentiate, however, when exogenous ECM is added, muscle cells differentiate normally (Osses, N. & Brandan, E., 2002). Furthermore, myogenic cells cultured on ECM extract coated dishes experienced enhanced proliferation and differentiation compared to uncoated and collagen coated dishes

(Stern, M. M. et al., 2009). Engler et al. demonstrated the importance of ECM elasticity on stem cell fate. Mesenchymal stem cells (MSCs) were plated on collagen-coated dishes that mimicked the elasticity of several different tissues. The MSCs differentiated into the lineages that corresponded to the stiffness of the native environment. For example, MSCs that were plated on soft matrices differentiated into neural tissue, those plated on medium stiffness matrices differentiated into myogenic cells, and cells plated on hard matrices differentiated into bone (Engler, A. J. et al., 2006).

During skeletal muscle repair, the ECM undergoes degradation and remodeling. Both *in vitro* and *in vivo* studies have demonstrated that ECM degradation products serve as chemoattractants to recruit progenitor cells to the site of remodeling and enhance progenitor cell proliferation (Beattie, A. J. et al., 2009; Mauney, J. et al., 2010). In addition, the degradation products have been shown to possess antimicrobial properties, as evident by infection resistance following deliberate contamination (Badylak, S. F. et al., 2003). Furthermore, an *in vitro* study demonstrated that intact ECM scaffolds are capable of supporting bacterial growth (Holtom, P. D. et al., 2004). This is important in preventing infection upon scaffold implantation.

The ECM also serves as a reservoir for growth factors, such as fibroblast growth factor (FGF), vascular endothelial growth factor (VEGF), and hepatocyte growth factor (HGF) (Hawke, T. J. & Garry, D. J., 2001), which embed within the

matrix and are available to the local cells. After skeletal muscle injury, macrophages and satellite cells release matrixmetalloproteinases (MMPs), which release the bound growth factors and stimulate myoblast and progenitor cell migration, proliferation, and differentiation (Lolmede, K. et al., 2009; Tatsumi, R., 2010).

The use of a decellularized extracellular matrix as a biological scaffold is an attractive approach to tissue regeneration because it removes most antigens that may invoke a host response following implantation, and can promote a constructive remodeling macrophage phenotype (Badylak, S. F. et al., 2008; Valentin, J. E. et al., 2009). Furthermore, decellularization retains biodegradability and biocompatibility of the scaffold because host cells produce their own matrix. Additionally, the construct's 3D structure is retained and may include residual myotubes and remnant vascular and neural spaces that can facilitate myoblast alignment and the incorporation of nerves and blood vessels into the acellular scaffold (Borschel, G. H. et al., 2004).

Acellular ECMs are commonly seeded with progenitor cells and implanted to replace lost tissues in VML injuries in animal models (Borschel, G. H. et al., 2004; Kochupura, P. V. et al., 2005; Merritt, E. K., Cannon, M. V., et al., 2010; Vindigni, V. et al., 2004). Borschel et al. injected C_2C_{12} myoblasts into an acellular muscle derived ECM and was able to elicit contractile forces after incubation in differentiating medium for one week (Borschel, G. H. et al., 2004). Furthermore, several groups have implanted decellularized ECMs seeded with myoblasts to repair abdominal

wall defects (Conconi, M. T. et al., 2005; De Coppi, P. et al., 2006; Marzaro, M. et al., 2002; Vindigni, V. et al., 2004). Non-seeded ECMs were completely replaced by fibrous scar tissue after one month (Conconi, M. T. et al., 2005; Marzaro, M. et al., 2002), while seeded ECMs displayed blood vessel and myofiber growth (Marzaro, M. et al., 2002) as well as single motor unit potentials (Conconi, M. T. et al., 2005). However, ninety days post implantation, seeded ECMs atrophied, became encased in adipose tissue, and decreased contractile tissue (Conconi, M. T. et al., 2005). Machingal et al. demonstrated significant functional recovery two months post implantation of an acellular porcine bladder seeded with myoblasts into a lattisimus dorsi VML injury (Machingal, M. A. et al., 2011). Previous studies in our lab have been successful in restoring 94% of muscle function by implanting an ECM seeded with mesenchymal stem cells into a VML injury (Merritt, E. K., Cannon, M. V., et al., 2010). However, upon immunohistological analysis, a hypoxic core void of myofibers and blood vessels was found within the center of the ECM, which is believed to be limiting complete functional and morphological regeneration. Therefore, the injection of MSCs alone was not successful in promoting regeneration of cellular material at the center of the ECM implant.

MESENCHYMAL STEM CELLS AS A THERAPY FOR MUSCLE REGENERATION

Mesenchymal stem cells (MSCs) are an attractive approach for cellular therapy for skeletal muscle diseases and injuries as they are easy to obtain, have

great proliferative capacity *ex vivo*, multilineage potential, immune-modulatory properties, and contribute to skeletal muscle regeneration *in vivo*. MSCs are easily obtained through bone marrow aspiration and can be easily expanded on a large scale for autotransplantation. MSCs were first discovered in bone marrow by their adherence to tissue culture plastic (Friedenstein, A. J. et al., 1974). Although the primary source of MSCs is the bone marrow, they can also be found in blood, skin, fat, muscle, and vasculature. In culture and *in vivo*, MSCs have been shown to differentiate into multiple cell types such as bone, cartilage, adipose, nerve, tendon, and skeletal muscle tissues (Alexakis, C. et al., 2007; Chen, J. et al., 2001; Chopp, M. et al., 2008; Dezawa, M., 2005; Kopen, G. C. et al., 1999; Lee, J. H. et al., 2005; Owen, M. & Friedenstein, A. J., 1988; Parr, A. M. et al., 2007; Prockop, D. J., 2007; Zietlow, R. et al., 2008). Most MSC populations express mesenchymal markers such as CD29 (beta-1 integrin), CD90 (Thy-1), CD54 (ICAM-1), CD44 (H-CAM), CD71 (transferrin receptor), CD105 (SH2), SH3, Stro-1, and CD13, but cells positive for hematopoietic surface markers CD34, CD3, and CD117 exist in small quantities (Dezawa, M., 2008; Pittenger, M. F. et al., 1999).

Bone marrow-derived stem cells have been shown to mobilize from bone marrow to peripheral blood in response to acute and chronic injury (Ramirez, M. et al., 2006). Circulating bone marrow-derived cells are able to engraft in skeletal muscle and contribute to muscle regeneration in healthy and dystrophic muscles, albeit to a very small extent (Dreyfus, P. A. et al., 2004; Gussoni, E. et al., 1999;

Majka, S. M. et al., 2003; McKinney-Freeman, S. L. et al., 2003). Irradiated female *mdx* mice were intravenously injected with healthy male bone marrow-derived stem cells. Intravenous injection resulted in the formation of dystrophin expressing Y-chromosome-positive muscle fibers eight weeks post transplantation, although dystrophin positive cells was <1% of total myofibers (Gussoni, E. et al., 1999). Similarly, bone marrow donor nuclei were detected in the musculature of a DMD patient 13 years after a bone marrow transplant. However, as in the mouse model, this did not appear to significantly increase the number of dystrophin-positive muscle fibers (Gussoni, E. et al., 2002).

In a study by Ferrari et al, bone marrow from transgenic mice expressing the *LacZ* reporter gene under a muscle-specific promoter were intramuscularly or intraveneously injected into severely combined immunodeficient *scid/bg* mice. Donor derived $LacZ^{+}$ myogenic cells were identified within the tibialis anterior musculature following transplantation. However, this occurred at low frequencies compared to satellite cell engraftment and required exposure to a regenerating environment (Ferrari, G., 1998). Other studies have demonstrated that donor MSCs become incorporated into skeletal muscle and occupy the satellite cell niche in dystrophic *mdx* mice (Bittner, R. E. et al., 1999; Corti, S. et al., 2002; Dezawa, M., 2005; Fukada, S. et al., 2002). In a study by LaBarge and Blau, bone marrow MSCs were found occupying the satellite cell domain following irradiation-induced damage. Furthermore, in the same study, satellite cell MSCs participated in skeletal

muscle regeneration following exercise-induced damage (LaBarge, M. A. & Blau, H. M., 2002). In addition, clonal progenies of GFP^+ satellite cells isolated from recipient muscles that expressed satellite cell markers underwent myogenic differentiation when exposed to differentiation media *in vitro* and contributed to muscle regeneration when injected into TA muscles of immunodeficient mice (LaBarge, M. A. & Blau, H. M., 2002). Dezawa et al. differentiated MSCs into myocytes using Notch1, and implanted them into cardiotoxin pre-treated muscles of *mdx* mice. The transplanted cells incorporated into newly formed myofibers and the satellite cell compartment (Dezawa, M., 2005).

Although the differentiation potential of MSCs has repeatedly been demonstrated, cell implantation has frequently produced functional improvements with very little cellular engraftment (Prockop, 2007). For example, in the first clinical trial of MSCs, cells were transplanted into children with osteogenesis imperfecta, a genetic bone disorder caused by mutations in type I collagen resulting in fragile bones and severe muscle weakness. After MSC transplantation, the children were able to sit up on their own and walk with support; something they were unable to do prior to the cell transplantation. However, the level of MSCs detected in bone and other tissues was less than 1% (Prockop, 2007). Berry et al. injected human MSCs into a rat myocardial infarcted heart. Eight weeks post infarct, MSCs engrafted, but did not differentiate into cardiomyocytes or stimulate angiogenesis. However, MSC-injected hearts showed significantly less fibrosis than

controls, reduced apoptosis, increased myocardial thickness, and improved cardiac compliance (Berry MF, E. A., Woo J, Pirolli TJ, Bish LT, Jayasankar V, Morine KJ, Gardner TJ, Discher DE, Sweeney HL, 2006). When human MSCs were injected into the dentate gyrus of the hippocampus in adult immunodeficient mice, most cells disappeared within one week, but they enhanced proliferation, migration, and neural differentiation of the endogenous neural stem cells (Munoz et al., 2005). These observations have focused attention on the paracrine effects of MSCs through the secretion of growth factors and cytokines (Caplan, A. I., 2009; Prockop, D. J., 2007).

It has been shown that injection of MSCs protects against neuronal injury and death after global ischemia injury by increasing expression of anti-inflammatory and anti-apoptotic factors, and increasing activation of macrophages by secretion of paracrine factors (Ohtaki, H. et al., 2008). When MSCs are transplanted to neurotraumatic or neurodegeneration models such as spinal cord injury and stroke, they migrate into the site of injury, promoted tissue repair, and contribute to functional recovery (Chopp, M. et al., 2000; Ohta, M. et al., 2004; Qu, R. et al., 2007). Qu et al. demonstrated that treatment of rats after stroke with bone marrow-derived cells improved functional outcome by the secretion of neutrophins and growth factors such as fibroblast growth factor 2 (FGF-2), insulin-like growth factor 1 (IGF-1), vascular endothelial growth factor (VEGF), nerve growth factor beta (NGF-β), brain-derived neurotrophic factor (BDNF), and epidermal growth factor

(EGF) (Qu et al., 2007). Using a hamster heart failure model, Shabbir et al. injected MSCs and MSC-conditioned media into skeletal muscle. Both MSC and MSC-conditioned media injections significantly improved ventricular function one month after administration (Shabbir, A. et al., 2009). Furthermore, the injections increased fractional shortening, enhanced capillary and myocyte nuclear density, decreased apoptosis, and reduced fibrosis. Additionally, the trophic effects of MSCs further activated the expression of HGF, IGF-2, and VEGF in the myocardium.

The aforementioned studies indicate the tremendous potential for bone marrow- derived cells in cellular therapy. The ease of availability, multipotency, paracrine factor, and immune-modulatory properties of bone marrow-derived cells make them an ideal stem cell for tissue engineering and regenerative purposes.

PEGYLATED FIBRIN HYDORGEL AS A STEM CELL DELIVERY VEHICLE

The use of hydrogel scaffolds for cell delivery is appealing because they are highly hydrated 3D matrices that provide an environment in which cells can attach, proliferate, and differentiate. Growth factors can be incorporated into the hydrogels and mechanical signals can be manipulated by altering the mechanical properties of the scaffold. Poly-(ethylene glycol) (PEG) is an inert hydrophilic polyether that can be functionalized through conjugation with other polymers in a process called PEGylation. Work conducted by Zhang et al. has demonstrated an increase in MSC proliferation, uniform migration of cells out of the gel, and formation of vascular tube-like networks

positive for endothelial cell markers CD31 and vWF when cells are entrapped in a PEGylated fibrin hydrogel (Natesan, S. et al., 2011; Zhang, G. et al., 2010; Zhang, G. et al., 2008; Zhang, G. et al., 2007; Zhang, G. et al., 2006). The mechanisms in which PEGylated fibrin increases cell proliferation and differentiation is unclear. However, it is believed the hydrogel mimics the mechanical and biological characteristics of the native ECM, providing a hospitable environment for the entrapped cells. In addition, the cell-cell and cell-matrix interactions within the gel may induce cell differentiation. Therefore, utilization of PEGylated fibrin as a vehicle for stem cell delivery in a VML model may greatly facilitate MSC proliferation and promote vascularization of implanted acellular ECM constructs to enhance myofiber maturation and fusion.

SIGNIFICANCE

Fifty-four percent of combat wounds that occurred in Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF) from October 2001 through January 2005 were extremity injuries (Owens, B. D. et al., 2007). Additionally, extremity injuries made up over 57% of battlefield injuries during World War II, the Korean, and Vietnam Wars. Approximately 70% of extremity injuries in OIF & OEF were orthopaedic in nature, with soft tissue, fracture, and nerve injury being the most common types of injury (Cross JD, F. J., Hsu JR, Masini BD, Wenke JC, 2011). The most common result from these injuries was pain, loss of nerve function, and loss of range of motion. Many military personnel who sustain such injuries are discharged, placed through a rigorous physical and psychological rehabilitative process, and placed on permanent disability, which results in a significant cost to the military.

Current clinical treatments involve the use of host tissue to create flaps and grafts. However, these therapies are associated with high donor-site morbidity and severe functional and cosmetic deficits. The majority of literature on the loss of skeletal muscle is on abdominal wall defects, which cannot be translated to large, load bearing muscles. The few studies that exist to repair skeletal muscle defects in large muscles utilizing ECMs and progenitor cells fail to restore muscle function, and implant ECM extracted from the small intestine. Therefore, the findings in the study will determine the therapeutic potential of skeletal muscle repair with progenitor

cells embedded in a hydrogel and seeded on a skeletal muscle-derived ECM with regard to restoration of muscle function and morphology. In addition, it is hopeful that the findings from this study will serve a path forward for the development of a clinically relevant therapy for functional reconstruction of skeletal muscle following traumatic muscle injury.

METHODS

ANIMALS

Male Sprague-Dawley rats (Charles River Laboratories; Wilmington, MA) 6-9 months of age were used in this study. Animals were housed individually on a 12-hour light/dark cycle in a temperature-controlled room, and allowed ad libitum access to food (Rodent Chow; Harlan Teklad) and water. Rats were randomly assigned to one of four groups (n=6-9). All procedures were approved and conducted in accordance with the guidelines set forth by the University of Texas Institute of Animal Care and Use Committee.

ECM DECELLULARIZATION

Extracellular matrices from the gastrocnemius of donor Sprague-Dawley rats were isolated and decellularized in a method similar to Borschel, but with modifications (Borschel, G. H. et al., 2004). Muscles were removed and placed in 4°C deionized water (dH2O) for 24 hours to allow for cellular swelling and rupture. Muscles were then placed in chloroform (Fisher; Pittsburgh, PA) and placed on an orbital shaker for 3-5 days. The muscle was rinsed several times with dH2O and placed in 2% sodium dodecyl sulfate (SDS) (Sigma-Aldrich; St. Louis, MO) with 1% antibiotic-antimycotic (AA) (Sigma-Aldrich;St. Louis, MO) and continuously agitated. The SDS/AA solution was changed every three days until all cellular materials were removed. The ECM was rinsed in dH2O with 1% AA every day for three days or until all SDS was removed. Next, the ECM was immersed in 70% ethanol for four

hours, and subsequently placed in sterile phosphate buffered saline (Invitrogen; Carlsbad, CA) with 1% AA and exposed to ultraviolet light for at least 12 hours. Decellularized ECMs were stored at 4°C in sterile PBS with 1% AA until ready for implantation.

VML CREATION & ECM IMPLANTATION

All animals underwent removal of a 1.0 x 1.0 cm full thickness piece of muscle from the lateral gastrocnemius (LGAS), which was immediately replaced with an extracellular matrix (ECM) of the same dimensions, and injected with one of four solutions seven days later (Figure 1), as described by Merritt (Merritt, E. K., Hammers, D. W., et al., 2010). Prior to surgery, animals were randomly assigned to one of four groups: saline injection (SAL), MSC injection (MSC), PEGylated fibrin hydrogel injection (PEG), and injection of MSCs seeded in a PEGylated fibrin hydrogel (PEG+MSC). All surgeries were conducted under aseptic conditions while rats were anesthetized with 2-3% isoflurane gas.

Briefly, a two-centimeter skin incision was made along the lateral side of the lower leg, parallel with the tibia. The biceps femoris was separated from the tibia to expose the lateral portion of the LGAS. The soleus was separated from the LGAS superior to the Achilles tendon. A small metal plate was placed between the separated soleus and the LGAS to prevent injury to the soleus upon creation of the defect. Two #9 scalpel blades separated by a spacer was used to create the defect distal to the neuromuscular junction with the proximal blade in line with the tibial

tuberosity. Two full thickness lacerations were made perpendicular to the fibers, and the medial edge was cut free with surgical scissors. The excised muscle was weighed and recorded. Immediately following defect creation, an ECM was cut to the dimensions of the excised tissue and implanted parallel with the transected muscle fibers using a nonabsorbable 5-0 polyprolene (5-0 prolene; Ethicon) suture. A modified Kessler's stitch with simple interrupted sutures on the three borders was utilized to secure the ECM to the transected fibers and later serve as markers for histological and immunohistological analysis (Kragh, J. F. et al., 2005). The biceps femoris was sutured closed using simple interrupted polyprolene sutures (5-0 prolene; Ethicon). The skin was closed using a simple interrupted suture (5-0 prolene; Ethicon) with the knot tied underneath the skin to prevent the animal from opening the incision.

MSC ISOLATION & CULTURE

Bone marrow derived mesenchymal stem cells (MSC) were harvested from Sprague-Dawley rats according to Friedenstein (Friedenstein, A. J. et al., 1974). The femurs and tibias of Sprague Dawley rats were extracted and cleaned of all connective and muscle tissues. The epiphyses were cut and the bone marrow was extruded with a Dulbecco's modified eagle's medium (DMEM) (Invitrogen; Carlsbad, CA), 10% fetal bovine serum (FBS) (Invitrogen;Carlsbad, CA), and 1% AA media solution. The cells were centrifuged and the cell pellet was plated at a density of $5x10^7$ cells/100 mm^2 on a culture flask and incubated overnight at 37°C and 5%

CO2. The non-adherent fraction was then removed, centrifuged, and replated at a density of $5x10^7$ cells/100 mm^2. Cell culture media was replaced every 2-3 days until cells reached 70% confluency, afterwhich cells were removed from the flask with 0.25% trypin in 1mM EDTA, centrifuged, replated at a density of $5x10^5/100mm^2$, and cultured for 3-8 passages. Animals in the MSC and PEG+MSC group were injected with 1.5-2 million MSCs. Upon reaching confluency, cells between passages 3-8 were trypsinized, centrifuged, and resuspended in 200µl (MSC group) or 25µl (PEG+MSC group) of PBS.

PEGYLATED FIBRINOGEN PREPARATION

Succinimidylglutarate bi-functional polyethylene glycol (3400Da, NOF America; White Plains, NY) was added to human fibrinogen (80mg/ml, in PBS pH 7.6, Sigma; St. Louis, MO) at a molar ratio of 10:1 and incubated at 37°C for forty-five minutes. PEGylated fibrinogen underwent gelation by adding an equal volume solution of thrombin (25U/ml in 40mM calcium chloride, Sigma; St. Louis MO).

TREATMENT SURGERY

After the seven day recovery period from the initial injury, the animals were anesthetized, the original skin incision was reopened, and the LGAS was exposed to visualize the ECM. The ECM was injected in 4-6 locations using a 26-gauge needle with 200µl of saline (SAL), 200µl of PEGylated fibrin (PEG), 200µl mesenchymal stem cells (MSC) or 200µl mesenchymal stem cells seeded in PEGylated fibrin (PEG+MSCs). After injection, the wounds were sutured as previously described.

FUNCTIONAL ANALYSIS

All treatment groups were allowed to recover for fifty-six days and the LGAS muscles were subjected to functional analysis. Animals were anesthetized, and a skin incision was created parallel to the femur. The sciatic nerve was then severed as close to the hip as possible. A longitudinal skin incision was made along the posterior portion of the lower leg from the calcaneus to the popliteal region. The skin was separated from the biceps femoris, and a similar incision was made along the biceps femoris from the calcaneus to the popliteal region. The biceps femoris, soleus, and plantaris were separated from the gastrocnemius, and the medial GAS was dennervated to ensure only the LGAS was contributing to force production. In order to connect the LGAS to the muscle lever, the calcaneus was cut with the Achilles tendon still intact and tied to the lever arm of a dual mode servometer (model 310-B, Aurora Scientific, ON, Canada). Electrodes were placed on the sciatic nerve, and the muscle was stimulated to contract using a stimulator (Model 2100; A-M Systems, Carlsborg, WA). The LGAS and nerve were kept moist with mineral oil, and the muscle was kept warm utilizing a radiant heat lamp. The muscle was adjusted to optimal length and maximal tetanic contraction was determined by stimulation at 150Hz and the minimal voltage necessary to elicit maximal tetanic contraction. The LGAS was allowed to rest for two minutes in between contractions. After functional analysis was completed, the muscles were removed, weighted,

frozen in liquid nitrogen cooled isopentane and stored at -80°C for histological and immunohistological analysis.

HISTOLOGY

Following functional analysis, the experimental LGAS was removed, cleaned of external connective tissue and excess fat, weighed, and frozen in liquid nitrogen cooled isopentane. Within the defect area, six serial, 5μm sections perpendicular to the myofiber orientation in the top, middle, and bottom regions of the implanted ECM were made using a Leica CM1900 cryostat microtome (Leica Microsystems; Wetzlar, Germany) at -20°C, immediately placed in cold acetone for five minutes, and allowed to dry. Hematoxylin and eosin and Masson's Trichrome (Sigma-Aldrich; St. Louis, MO) staining were performed to identify myofibers and other cytoplasmic cells, nuclei, and the collagen-containing ECM. H&E and Trichrome sections were visualized with a Nikon Diaphot microscope mounted with an Optronix Microfire digital camera. Histological quantification of H&E was performed on each level and within each region of the ECM with the 20x objective lens. Myofiber cross-sectional area (CSA) was measured utilizing ImageJ software.

STATISTICAL ANALYSIS

Data are represented as mean ± SEM. Statistical analysis was performed utilizing ANOVA for analysis of group samples. Comparisons between data sets were performed utilizing unpaired student's t-test and Tukey's post hoc tests where available. Significance is defined as $p < 0.05$.

RESULTS

The average size of muscle mass removed from the LGAS was 325 ± 45mg wet weight, accounting for approximately 30% of the total mass of the LGAS. Consistent with previous work by Merritt et al., overall morphology of the LGAS was well maintained in all groups over the course of the 56 day recovery. However, the weight of the experimental LGAS was significantly higher in the PEG+MSC group than the weight of the experimental LGAS in all other groups ($p < 0.05$) (Figure 2).

The maximal isometric tetanic force (Po) produced by the experimental LGAS in the PEG+MSC group was significantly higher than all other groups ($p < 0.05$) (Figure 3). In addition, the Po produced by the LGAS in the MSC group was significantly higher than SAL and PEG groups ($p < 0.05$). Specific tension (SPo), the maximal tetanic force per unit of cross sectional area (CSA), of the LGAS in the PEG+MSC (80 ± 4% of the contralateral LGAS) and MSC (78 ± 6%) groups were significantly higher than SAL (58 ± 3%) and PEG (64 ± 2%) groups ($p < 0.05$) (Figure 3).

Histological analysis of the implanted ECM after 56 days of recovery demonstrated the presence of muscle fibers within the ECM (Figure 4). The quantification of cellular material by hematoxylin and eosin staining in the top, middle, and bottom regions of the ECM exhibited myofiber infiltration throughout all regions of the ECM in all groups. However, the areas closest to the transected

muscle ends (as evidenced by suture holes) appeared to be the most densely populated, with fewer myofibers seen in the middle region of the ECM in all groups.

Myofiber cross-sectional area was measured and evaluated in the top (Figure 5A), middle (Figure 6A), and bottom (Figure 7A) regions of the implanted scaffold. All groups displayed small myofibers with centralized nuclei throughout all regions of the ECM. SAL and PEG groups displayed left skewing of distribution of myofiber size throughout all ECM regions. ECMs treated with MSC and PEG+MSC treated groups trended towards a greater percentage of larger myofibers in all regions compared to SAL and PEG groups. The proportion of average sized myofibers (3500-6000 μm^2) were evaluated in each treatment group. Although it appeared the cell treated groups had a greater percentage of average sized myofibers in the top region (Figure 5B), this difference was not significant. However, PEG+MSC and MSC treatment resulted in significantly higher percentage of myofibers compared to SAL and PEG treatment in the middle (Figure 6B) and bottom (Figure 7B) regions ($p < 0.05$).

DISCUSSION

When an individual sustains an injury in which a significant portion of skeletal muscle is lost, the subsequent aesthetic and functional deficits commonly result in a lack of physical and psychological well-being. Traumatic skeletal muscle injuries make up a large portion of extremity injuries sustained in combat. Many military personnel who sustain such injuries are discharged, placed through a rigorous physical and psychological rehabilitative process, and placed on permanent disability, which results in a significant cost to the military. Current therapies can improve muscle morphology in the injured area, but fail to restore muscle function. Therefore, the development of a therapy that not only restores muscle aesthetics, but muscle function as well is imperative.

As previously demonstrated in our lab by work conducted by Merritt et al., and Tierney et al., repair of VML injury with an acellular scaffold alone is not sufficient for muscle repair. Although the implanted scaffold bridges the gap between the transected ends, the infiltrating myofibers and blood vessels cannot penetrate the entire scaffold, which results in the failure to restore muscle function. The injection of MSCs into the ECM increased the number of myofibers and blood vessels throughout the scaffold and resulted in partial restoration of muscle function; suggesting the implanted MSCs participated in muscle repair.

The functional and histological regeneration after 56 days of recovery seen in the MSC and PEG+MSC groups is likely the result of a number of positive effects

attributed to MSC therapy. MSCs have been shown to incorporate into skeletal muscle and the satellite cell niche in the *mdx* mouse model (Bittner, R. E. et al., 1999; Corti, S. et al., 2002; Fukada, S. et al., 2002; Quintero, A. J. et al., 2009). LaBarge et al. demonstrated that in response to injury, MSCs differentiate into functioning satellite cells prior to becoming differentiated myofibers (LaBarge, M. A. & Blau, H. M., 2002). Ramirez et al. demonstrated MSCs mobilize from the bone marrow to the peripheral blood in response to acute muscle damage caused by eccentric exercise, and in response to chronic muscle injury from McArdle's disease (Ramirez, M. et al., 2006). Moreover, Palermo et al. showed MSCs participate, in skeletal muscle regeneration in healthy tissue under normal physiological conditions by mobilization from the bone marrow and engraftment into the stimulated muscle (Palermo, A. T. et al., 2005). Evidence suggests that MSCs do not need to engraft in skeletal muscle to exert their therapeutic benefits, and contribute regeneration of existing fibers and satellite cells through their release of paracrine growth factors and cytokines (Hocking, A. M. & Gibran, N. S., 2010; Kagiwada, H. et al., 2008; Natsu, K. et al., 2004). The increase in cellular content in MSC treated groups is likely a result of this mechanism. The paracrine actions of MSCs are further supported by improved ventricular function and decreased fibrosis and apoptosis in a heart failure model and subsequent treatment with cell-free conditioned media (Shabbir, A. et al., 2009). This same study also demonstrates that MSCs needed not be in the local site of injury to exert their effects. Shabbir et al. injected MSCs or MSC conditioned media

into a distant skeletal muscle and saw improvements in cardiac function in the hamster heart failure model. Some of these beneficial effects can be attributed to the trophic factors released by the MSCs as demonstrated by the increased expression of HGF, IGF-2, and VEGF in the myocardium (Shabbir, A. et al., 2009). In addition, ECM degradation products have been shown to include chemotactic factors to recruit progenitor cells to the site of remodeling (Beattie, A. J. et al., 2009; Mauney, J. et al., 2010).

Similar to what has been seen previously in our lab, the skeletal muscle derived ECMs used in this study are capable to supporting myofiber and blood vessel infiltration without the addition of exogenous MSCs. These findings also support those seen in abdominal wall defects repaired with myoblast seeded acellular scaffolds (Conconi, M. T. et al., 2005; De Coppi, P. et al., 2006; Marzaro, M. et al., 2002; Vindigni, V. et al., 2004). Nonetheless, in contrast with these findings, non-seeded ECMs were completely replaced by fibrous scar tissue (Conconi, M. T. et al., 2005; Marzaro, M. et al., 2002). Conconi et al., however, implanted acellular ECMs in a rat abdominal wall defect. The LGAS used in this study is an active, load bearing muscle that is subjected to work during normal cage activity, as opposed to the abdominal muscle used in the Conconi et al, study which is not exposed to the same functional demands. Mechanical stimulation and stretch has been shown to improve muscle regeneration (Hwang, J. H. et al., 2006), and it is likely the activity level of the LGAS aided in the regeneration of myofibers in the implanted ECM.

Histological analysis exhibited smaller and fewer myofibers in the middle region of the ECM in all treatment groups despite the fact that cell treated groups were injected throughout all regions of the scaffold, which is consistent with what was seen in studies conducted by Merritt et al. and Tierney et al.. Terada et al. demonstrated that a gap greater than 2-3 mm is too far for myofibers from the transected ends to bridge (Terada, N. et al., 2001). All treatment groups exhibited myofiber infiltration, but most myofiber content was seen in the top and bottom thirds of the implanted ECM, less than 3 mm away from the LGAS-ECM border. Many of these cells exhibited centrally located nuclei, indicating that they were newly regenerated myofibers. It is likely that these muscle fibers were from the ingrowth of myofibers at the transected ends from the superior and inferior borders of the ECM. A greater percentage of myofibers in the MSC and PEG+MSC groups exhibited greater cross sectional area (CSA) in all regions when compared to SAL and PEG treated groups. However, it appears PEGylated fibrin treatment failed to contribute to improved myogenesis as a result of increased MSC proliferation and differentiation into vascular networks as previously demonstrated *in vitro* (Natesan, S. et al., 2011; Zhang, G. et al., 2010; Zhang, G. et al., 2008; Zhang, G. et al., 2007; Zhang, G. et al., 2006). Any improvements in muscle function observed in the PEG+MSC group can be attributed to the beneficial effects of MSCs, not PEGylated fibrin.

Many myofibers within the implanted ECM seen in the cell treated groups were organized and contained peripherally located nuclei, indicators of mature muscle fibers. Most myofibers observed by Merritt et al. and Tierney et al. exhibited centrally located nuclei, indicating that they were newly regenerated myofibers. However, the recovery period in this study is fourteen days longer than the recovery period by Merritt et al. and Tierney et al., and it is likely the longer recovery period led to maturation of the regenerating myofibers seen in their studies. Furthermore, the middle region of the ECM in this study contained a greater percentage of smaller myofibers across all treatment groups, consistent with Merritt et al. and Tierney et al. Because of the higher myofiber content in the regions closest to the ECM-LGAS border and the decreased myofiber growth and CSA in the middle region of the ECM, it is likely that the differentiation of implanted MSCs was not the main method of muscle regeneration. Because the middle region of the ECM was farther away from blood vessels, and, therefore, oxygen and nutrients, any cells injected in this region would have died. As previously stated, ECM degradation products attract myogenic precursor cells and stimulates their proliferation and differentiation into myofibers (Beattie, A. J. et al., 2009; Mauney, J. et al., 2010). This in addition to the trophic factors released by MSCs would stimulate myofiber regeneration at the transected ends and result in the greater myofiber number seen in the top and bottom regions of the ECM relative to the middle region. Further research should confirm and

quantify myofiber infiltration using the muscle specific cytoskeletal protein, desmin in addition to a marker for newly regenerated myofibers, myogenin.

In contrast with findings from the previous VML studies conducted in our lab, experimental LGAS mass in the SAL, PEG, and MSC groups was significantly lower compared to the contralateral limb. Although, this can be attributed to the 10% increase in the mass of skeletal muscle removed in this study (30% vs. 20% of LGAS mass). Interestingly, the experimental LGAS in the PEG+MSC group was significantly higher compared to all other groups, and was not significantly different when compared to the contralateral limb. This indicates restoration of LGAS mass after the 56 day recovery period.

After the 56 day recovery period, VML injured muscles treated with MSCs exhibited significant improvements in muscle function compared to non-cell treated ECMs, consistent with Merritt et al. and Tierney et al. However, the improvement in muscle function in this study across all groups was not as high as that seen in the previous studies conducted in our lab. This can be attributed to the 10% increase in LGAS muscle mass removed (~30% vs. 20% of LGAS mass) during creation of the VML injury in this study. A loss of greater than 20% of a muscle's mass is said to result in the failure of the repair process, denervation of the muscle distal to the defect, scar tissue accumulation, and loss of muscle function (Turner, N. J. & Badylak, S. F., 2011).

An additional benefit of MSCs is that in cases of significant muscle loss, they can contribute to the restoration of blood vessels and nerves that have been lost (Guiducci, S. et al., 2010; Ladak, A. et al., 2011). The improvement in muscle function demonstrated in cell treated groups implies MSC treatment led to at least partial reinnervation of myofibers within the ECM, even though nerve innervation was not examined. Although nerve and blood vessel infiltration were not studied, it can be hypothesized that MSC treatment lead to an increase in blood vessel and nerve content within the ECM implants due to the increase in myofiber content throughout the ECM, higher functional output, and because lack of innervation leads to myofiber death (Borisov, A. B. & Carlson, B. M., 2000; Rantanen, J. et al., 1995). The addition of PEGylated fibrin to MSC injections failed to further increase muscle function, and any increases in muscle function exhibited by the PEG+MSC group can be attributed to the effects of the MSCs. Further research should examine blood vessel and nerve content throughout the ECM using CD31, an endothelial cell marker, and silver cholinesterase, a stain for motor end plates to determine the effects of each treatment on angiogenesis and neurogenesis. Moreover, further investigations are required to determine the relative proportion of functional recovery due to the direct (new fiber formation) versus indirect (cell recruitment, trophic factors) effect(s) of MSCs.

In summary, this study reveals the treatment of VML injury with MSCs in PEGylated fibrin hydrogel fails to significantly improve functional and histological

restoration over the treatment of MSCs alone. This was demonstrated by the lack of complete functional recovery, and a decreased myofiber content throughout the implanted ECM in contrast to MSC treatment. In addition, functional and histological recovery with PEG treatment alone did not differ from the SAL treatment group. This study demonstrates the need of MSCs in order to enhance muscle regeneration in traumatic skeletal muscle injuries. Future studies may add PEGylated growth factors such as HGF and IGF-1 to examine the contribution of growth factors to muscle regeneration in VML injuries. In addition, future studies may utilize transgenic rats and lineage tracing to determine the role that progenitor cells play in VML injury models.

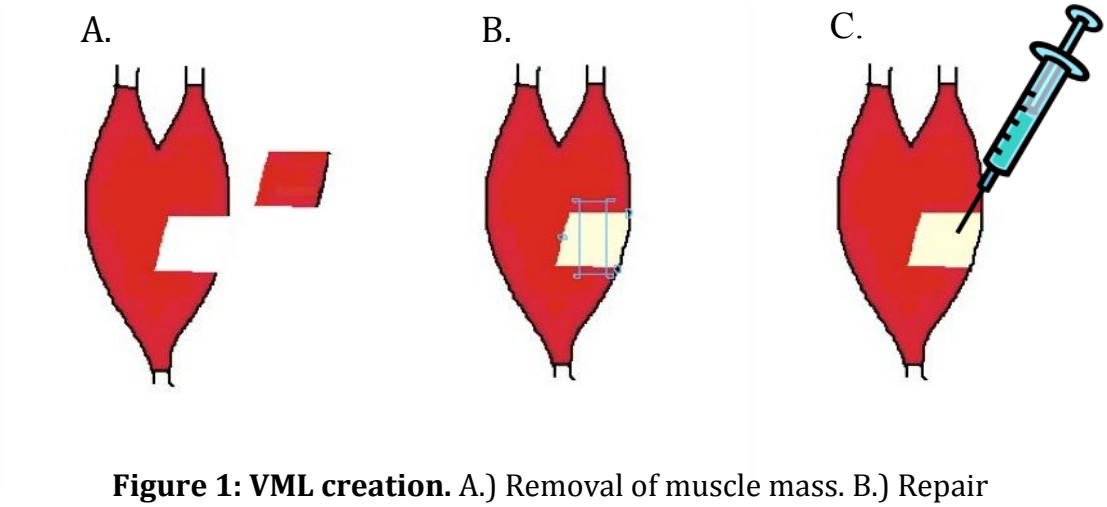

Figure 1: VML creation. A.) Removal of muscle mass. B.) Repair with ECM. C.) Treatment injection seven days post VML injury.

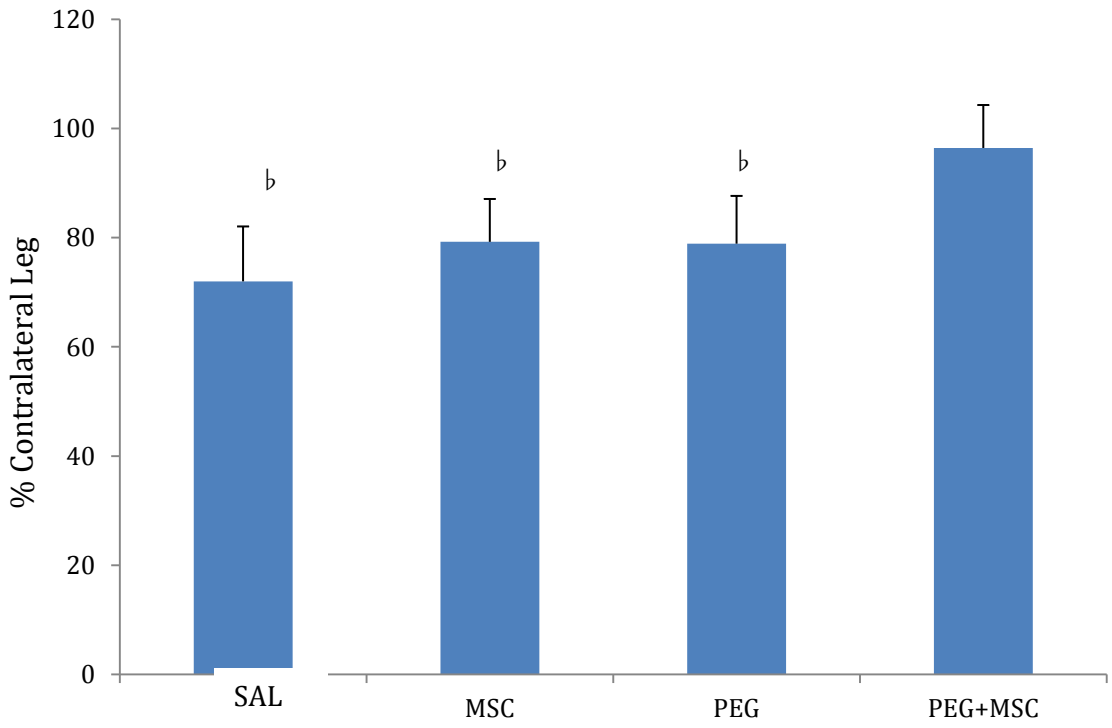

Figure 2: LGAS mass post-VML creation. Experimental LGAS mass after 56 days of recovery relative to the contralateral limb. þ indicates statistical difference from PEG+MSC group ($p < 0.05$).

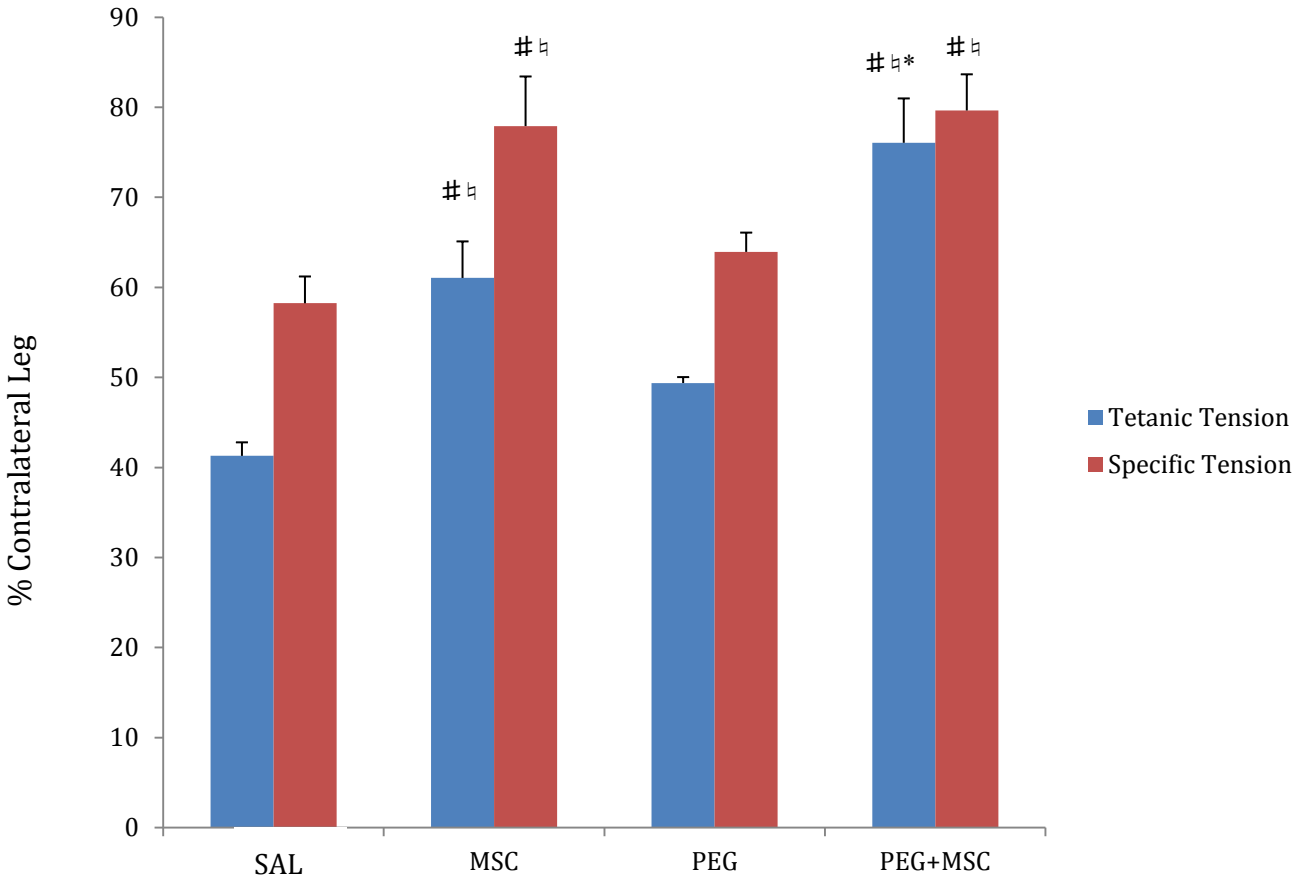

Figure 3: LGAS function post-VML creation. Tetanic tension (Po) and specific tension (SPo) of experimental LGAS after 56 days of recovery relative to the contralateral limb. ♯ indicates statistical difference from SAL group. ♮ indicates significance from PEG group. * indicates significance from MSC group. Significance is set at $p < 0.05$.

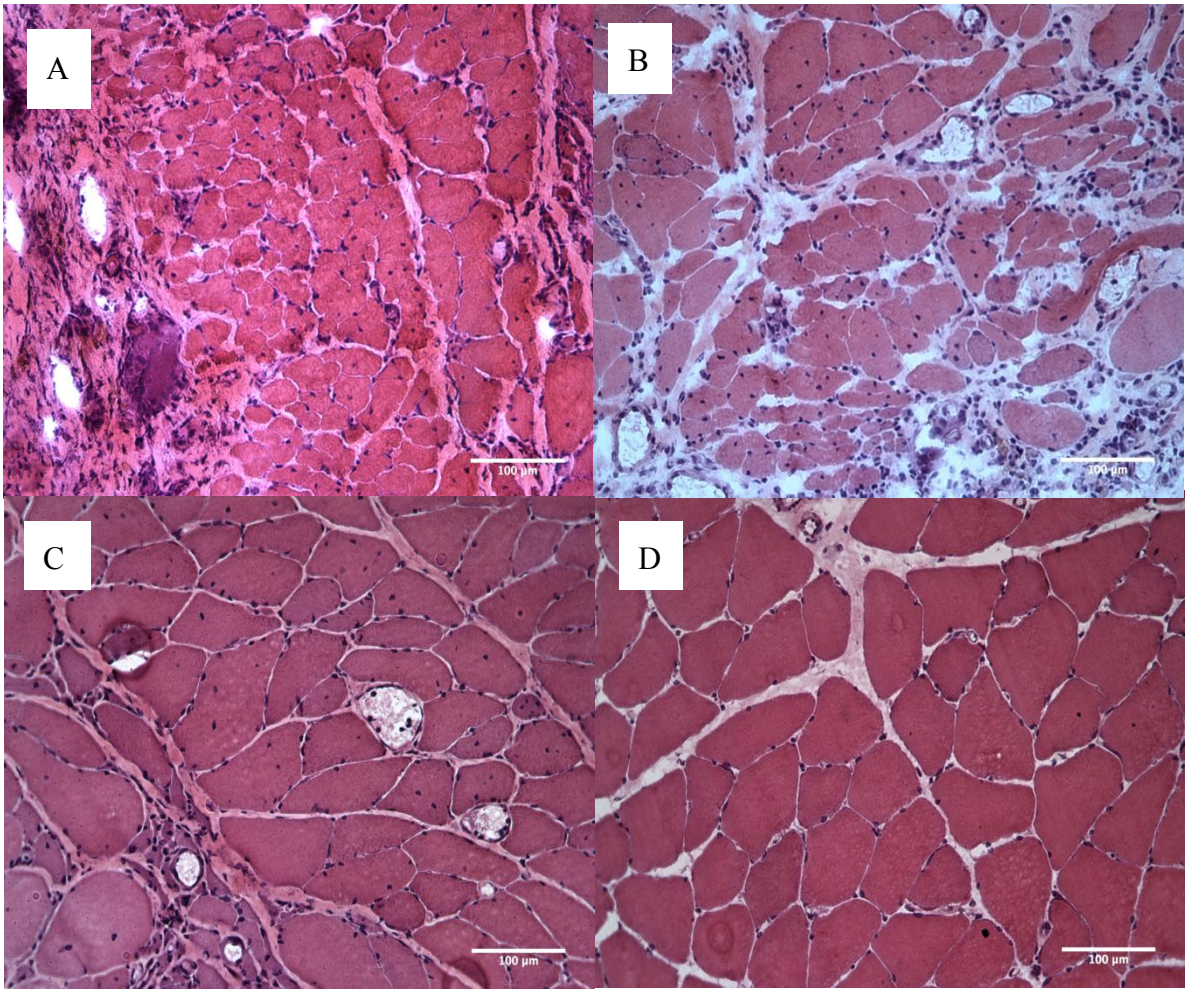

Figure 4: Hematoxylin and eosin staining. H&E sections showing myofiber infiltration in top portion of ECM implant taken with 20x objective lens. (A.) SAL group (B.) PEG group (C.) MSC group (D.) PEG+MSC group. Scale bar = 100 µm.

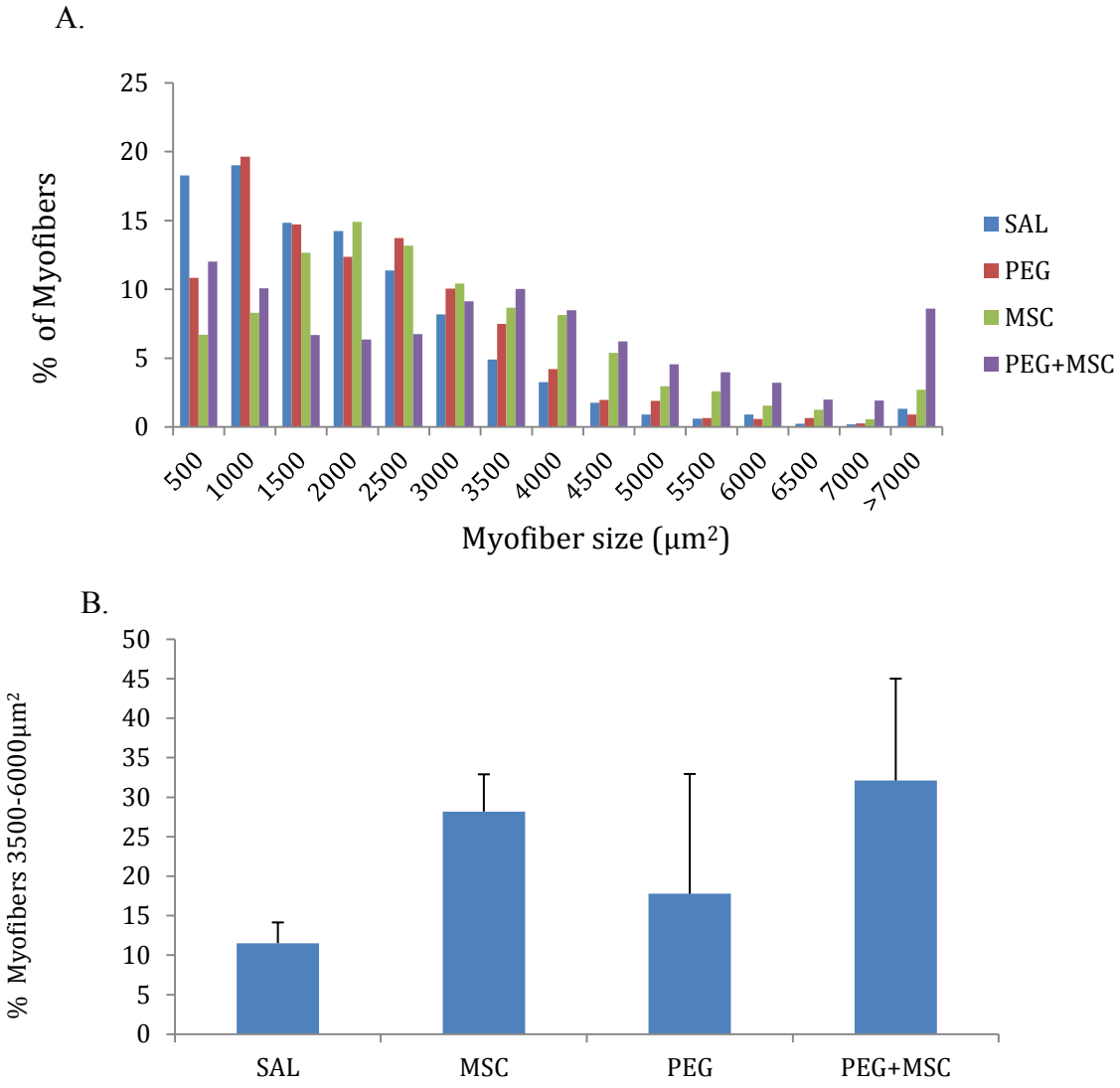

Figure 5: Myofiber CSA in top region of ECM. A.) Hematoxylin and eosin stained slides were evaluated for fiber size composition in the top region of ECM. B.) Proportions of average sized (3500-6000 µm²) muscle fibers were compared among different treatment groups

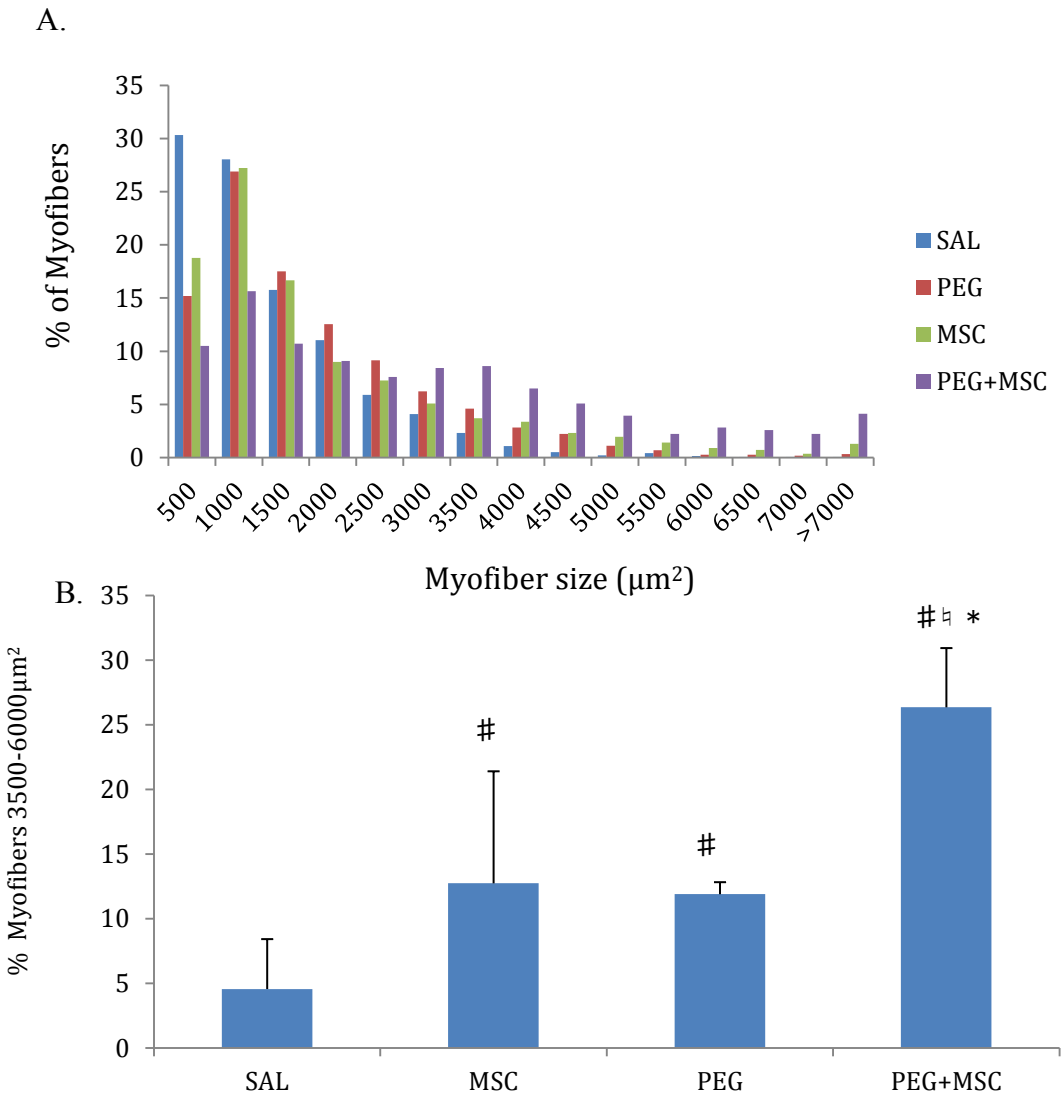

Figure 6: Myofiber CSA in middle region of ECM. A.) Hematoxylin and eosin stained slides were evaluated for fiber size composition in the middle region of ECM. B.) Proportions of average sized (3500-6000 µm²) muscle fibers were compared among different treatment groups. ♯ indicates statistical difference from SAL group. ♮ indicates significance from PEG group. * indicates significance from MSC group. Significance is set at $p < 0.05$.

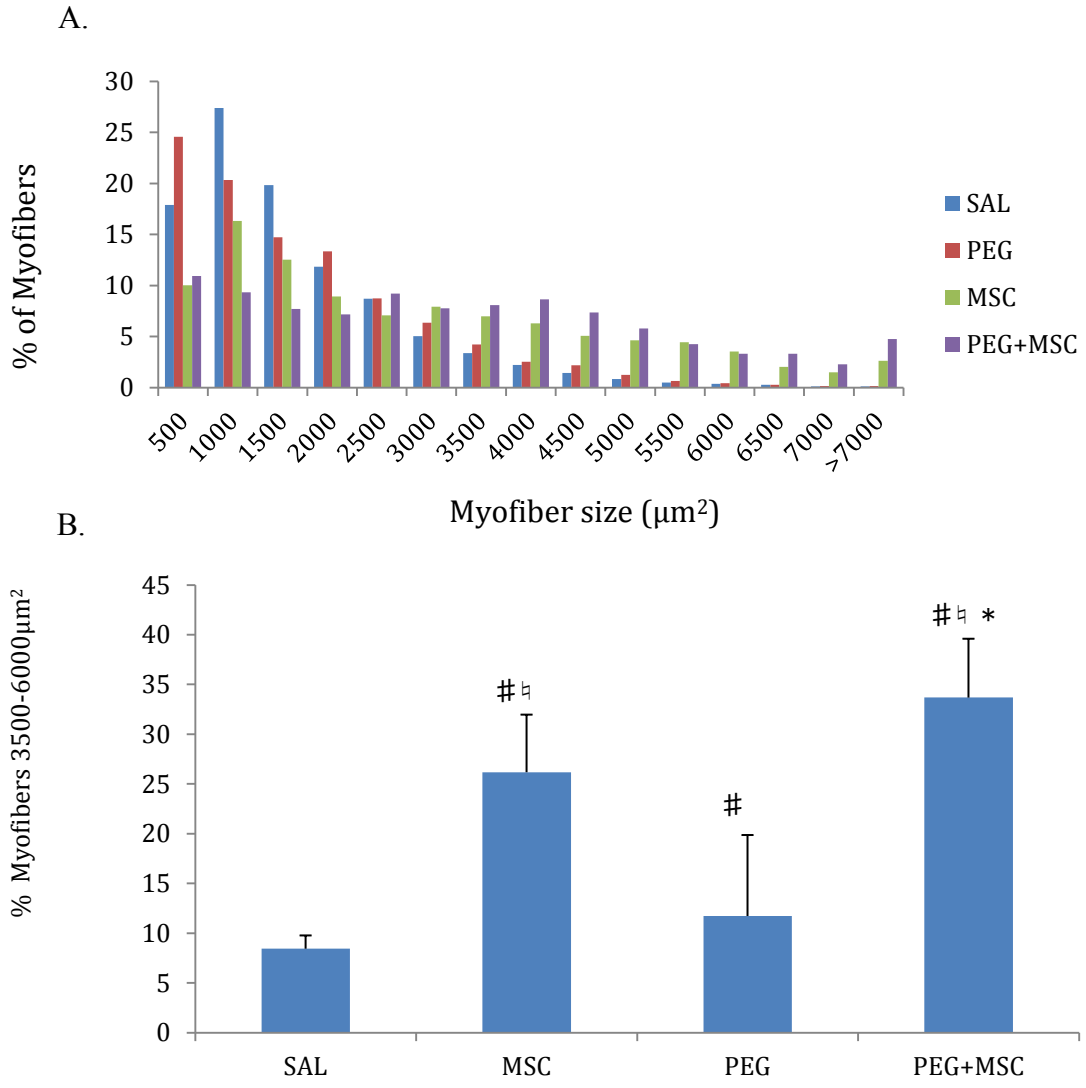

Figure 7: Myofiber CSA in bottom region of ECM. A.) Hematoxylin and eosin stained slides were evaluated for fiber size composition in the bottom region of ECM. B.) Proportions of average sized (3500-6000 µm²) muscle fibers were compared among different treatment groups. ♯ indicates statistical difference from SAL group. ♮ indicates significance from PEG group. * indicates significance from MSC group. Significance is set at $p < 0.05$.

APPENDIX A: EXPANDED METHODS

I. Extracellular Matrix Decellularization:

1. Place separated gastrocnemius muscles in a 50ml conical tube with deionized (DI) water at 4°C for 12-24 hours.
2. Replace DI water with chloroform and place on an orbital shaker for 72 hours.
3. Remove chloroform and rinse muscles three times with DI water, replace with 2% sodium dodecyl sulfate (SDS), and place on orbital shaker.
4. Change SDS solution every 2-3 days until all cellular material has been removed (should appear white in color).
5. Rinse ECM in DI water with 1% antibiotic-antimycotic (AA) twice a day for 72 hours.
6. Place the ECM in 70% ethanol for 4 hours.
7. Remove ethanol and place ECM in sterile PBS with 1% AA and expose to ultraviolet (UV) light for a minimum of 12 hours.
8. Store in PBS with 1%AA at 4°C until ready for implantation.

II. Volumetric Muscle Loss Creation & Repair

1. Prior to starting any surgical procedure, autoclave all instruments that will come into contact with the animal. The rat should be anesthetized and exhibit absence of the withdraw reflex. Observations should be made every 15 minutes for the duration of the surgical procedure.

2. Weigh and anesthetize the animal, and shave the hindlimb in which the defect will be created.
3. Using a scalpel cut a two-centimeter incision on the lateral side of the lower leg, parallel with the tibia.
4. Separate the biceps femoris from the tibia to expose the LGAS.
5. Carefully separate the soleus from the LGAS and place a small aluminum foil plate between the soleus and LGAS to prevent injury to the soleus upon defect creation.
6. Using two scalpel blades separated by a 1cm spacer, create the full-thickness defect distal to the neuromuscular junction and in line with the tibial tuberosity.
7. Remove the medial, uncut edge of the defect using a pair of fine surgical scissors, and weigh the excised tissue.
8. Cut a piece of the extracellular matrix to the same dimensions of the defect and implant it into the voided area.
9. Suture the ECM in place using a modified Kessler stitch with non-absorbable 5-0 polyprolene sutures.
10. To mark the borders of the ECM and insure the implanted ECM stays intact, stitch simple sutures at the proximal, distal, and medial portions of the ECM.
11. To close the wound, suture the biceps femoris utilizing simple interrupted sutures. Suture the skin incision using simple interrupted sutures with the knot tied underneath the skin to ensure the animal does not open the wound.
12. Return animal to cage and monitor for the designated recovery period.

III. A. Bone Marrow Derived Mesenchymal Stem Cell Isolation:

1. Prior to bone marrow isolation, sterilize all instruments and warm two 50 ml conical tubes containing media to 37°C in the water bath.
2. Fill two sterile petri dishes with sterile DPBS.
3. Anesthetize the animal and shave the hindlimbs.
4. Surgically remove both femurs and tibias. Remove as much muscle and connective tissue as possible, and place bones in one of the DPBS filled petri dishes.
5. Allow bones to sit in DPBS for a few minutes. This will help in further removal of any remaining tissue on the bones.
6. After cleaning the bones a second time, cut the epiphyses of the bones and place in second DPBS filled petri dish. Transport dish to the tissue culture hood.
7. Place one of the media tubes from the water bath under the hood.
8. Obtain four sterile 50 ml conical tubes (one for each bone) and place under the hood.
9. Using an 18-G needle attached to a 3ml syringe, draw up some media and flush out the bone marrow of each bone. Use a total of 10 ml of media per bone, for each tube.
10. Mechanically disrupt bone marrow clumps by drawing the bone marrow containing media up and down using a series of smaller syringes (16G, 18G, 21G).
11. Transfer media in each of the 50 ml tubes to 15 ml conical tubes (one for each bone).
12. Centrifuge the tube at 1000 x g for 5 minutes at 4°C.

13. Remove the supernatant and resuspend the pellet in 3 ml of media.
14. Obtain four 25 cm2 tissue culture flasks and plate the cells (one tube per flask). Add 7 ml of media to each flask, for a total of 10 ml of media per flask.
15. Place flasks in incubator set at 37°C and 5% CO2 for 24 hours.
16. Remove media (this is the non-adherent fraction) from flasks and place in four sterile 15 ml conical tubes. Centrifuge and plate as described above.
17. Rinse the first set of flasks at least twice with DPBS to remove remaining RBCs and debris.
18. Change media and rinse the flasks with DPBS for the next two consecutive days.
19. After this time period, change the media every 2-3 days until the cells have reached ~80% confluency and the cells must be split.

IV. MSC CULTURE:

Media Preparation:

1. Control media is made up of 90% Dulbecco's Modified Eagles Medium (DMEM) + 10% Fetal Bovine Serum (FBS) + 1% Antibiotic/Antimycotic (AA)
2. In a sterile 50 ml conical tube, add 45 ml of DMEM + 5 ml FBS + 1 ml AA.
3. Store media at 2-8°C.
4. Prior to use, warm media in 37°C water bath for at least 15 minutes.

Changing Media:

1. Cells should be monitored microscopically daily, and confluency should be noted.
2. Media should be changed every 2-4 days.
3. To change media, aspirate old media, rinse flask twice with DPBS and replace with 10 ml of fresh media.
4. When cells have reached ~80% confluency, they must be trysinized.

Passaging Cells:

1. Once cells have reached ~80% confluency, remove media from flasks and rinse twice with DPBS.
2. Replace DPBS with 3 ml 0.25% Trypsin/EDTA and place in incubator for three minutes.
3. Remove flasks from incubator and tap flasks against the side of a table to induce detachment of cells. Use the microscope to verify cells are detached.
4. Remove cell suspension from flasks and place in sterile 15 ml conical tube (one tube per flask).
5. Rinse flask with DPBS to obtain remaining cells, and place DPBS in appropriate tube.
6. Centrifuge tubes at 1000 x g for five minutes at 4°C.
7. Remove supernatant from tubes and resuspend in 3 ml of fresh media.
8. Split each tube into desired number of flasks. Prior to adding cell suspension to flasks, place 7 ml of media into each flask, for a total of 10 ml of media per flask.
9. Place flasks in incubator set at 37°C and 5% CO2.

Cryopreservation:

1. In the event that cells must be frozen for future use instead of passaged, carry out steps 1-6 as described in the previous section.
2. After centrifugation, resuspend cells in 1ml of freezing medium.
3. Place cell suspension in a 2 ml cryotube and place in -80°C freezer for two days, after which, tube can be transferred to liquid nitrogen.

Thawing:

1. Obtain cells from liquid nitrogen storage and place 2 ml cryotube in 37°C water bath until a small amount of ice remains.
2. Place the 1 ml suspension in a sterile 15 ml conical tube, rinse cryotube with 1 ml DPBS, and place DPBS in conical tube.
3. Slowly pipette 4 ml of freshly warmed media into the conical tube, and gently pipette media up and down.
4. Centrifuge at 1000 x g for 5 minutes at 4°C.
5. Remove supernatant from tubes and resuspend in 3 ml of fresh media.
6. Split each tube into desired number of flasks. Prior to adding cell suspension to flasks, place 7 ml of media into each flask, for a total of 10 ml of media per flask.
7. Place flasks in incubator set at 37°C and 5% CO2.

V. In Situ Muscle Functional Analysis

1. Weigh and anesthetize the animal, and shave hindlimbs of both legs.
2. Create a 2 cm skin incision parallel to the femur to expose the biceps femoris.

3. Locate the origin of the biceps femoris and separate the connective tissue with forceps until they go through the biceps femoris.
4. Separate the tissue using hemostats until you can locate the sciatic nerve.
5. Carefully cut the biceps femoris along the femur towards the hip.
6. Isolate the sciatic nerve from surrounding musculature and cut the nerve as close to the hip as possible.
7. Very carefully remove any remaining tissue from the sciatic nerve and tuck it back into place.
8. Make an incision along the midline of posterior portion of the lower limb from the calcaneus to the popliteal region.
9. Separate the skin from the biceps femoris, and cut the biceps femoris similarly to the skin to expose the LGAS.
10. Isolate the gastrocnemius from the biceps femoris.
11. Carefully dennervate the MGAS. This will ensure force will be measured only in the LGAS.
12. Cut the calcaneus so that the distal portion of the gastrocnemius and Achilles tendon are still attached.
13. Separate the soleus and plantaris from the GAS by cutting the distal insertions.
14. Using the calcaneus to hold it in place, tie the Achilles tendon to the muscle lever arm of the dual-mode servometer.
15. To stimulate the LGAS, place electrodes connected to a muscle stimulator (Model 2100) on the sciatic nerve.
16. Keep the muscle warm with a radiant heat lamp, and occasionally moisten the muscle and nerve with mineral oil.

17. Using a micrometer, find the muscle's optimal length.
18. Stimulate the LGAS at 150Hz to determine peak tetanic tension. Allow two minutes of rest between contractions.
19. After functional analysis is completed, remove the gastrocnemius and other tissues of interest.
20. Carefully separate the MGAS and LGAS.
21. Weigh muscles and measure the length of the LGAS.
22. Freeze muscles in liquid nitrogen cooled isopentane and store in -80°C freezer.

VI. HEMATOXYLIN & EOSIN STAINING:

Hematoxylin & Eosin staining is one of the most used stains in histology to examine tissue morphology. Hematoxylin stains nucleic acids a deep blue-purplish color. Eosin stains cytoplasm, red blood cells and skeletal muscle fiber pink.

1. Using the tall Coplin jars, immerse slides in Harris Hematoxylin for five minutes.

   * Pour out the solution and gently rinse in tap water until water runs clear.
2. Immerse slides in Eosin for two minutes.

   * Pour out the solution and gently rinse in tap water until water runs clear.
3. Immerse slides in 70% ethanol for several seconds. Ethanol will dehydrate the section and remove excess eosin.
4. Pour out ethanol and immerse slides in 100% ethanol for several seconds.

5. Under the fume hood, immerse slides in Xylene for several seconds. Xylene will make the tissue hydrophobic so a coverslip can be applied with a resin in solvent (Permount).
6. Remove the slides from Xylene and allow slides to dry for 30 minutes in the hood.
7. Apply a coverslip using a few drops of Permount.

Note: Eosin is very messy. Clean eosin stained surfaces with ethanol.

* Hematoxylin & Eosin can both be reused. Do not pour them out; pour them into a labeled 'used' bottle.

To determine is hematoxylin is still good:

Add several drops of stain to tap water (not distilled or deionized). If water turns bluish-purple immediately, it is still good. However, if it changes slowly, stays reddish or brownish, then the stain should be discarded.

VII. Masson's Trichrome Staining:

Masson's Trichrome stain utilizes three dyes that can stain muscle fibers, collagen, fibrin, and red blood cells. Working Weiger's Iron Hematoxylin stains nucleic acids black. Biebrich Scarlet Acid Fuchsin stains cytoplasm and muscle red, while Aniline Blue stains collagen a bluish-green color.

The Working Phosphotungstic/Phosphomolybdic Acid solution is a mix of the 2 acids with DI water. Mix 10 ml of phosphotungstic acid with 10 ml of phosphomolybdic acid and then add 20 ml of DI water.

1. Immerse slides in tall Coplin jar containing Bouin's Solution. Allow to sit for 15 minutes at 56°C or overnight at room temperature. Bouin's solution is used as a mordant to adhere dyes to the tissue.
2. Pour off solution and gently rinse in tap water until water runs clear.
3. Immerse slide in Working Weigert's Iron Hematoxylin for 5-6 minutes. The Working Weigert's Iron Hematoxylin is an equal volume mix of bottles A & B. The solution can be reused several times, but over time oxidizes and cannot be reused. The slide jars hold ~40 ml of solution, so mix 20 ml of A with 20 ml of B.
4. Pour off solution and gently rinse in tap water until water runs clear.
5. Briefly rinse in deionized (DI) water.
6. Immerse slides in Biebrich Scarlet Acid Fuchsin for five minutes.
7. Pour off solution and gently rinse in tap water until water runs clear.
8. Briefly rinse in deionized (DI) water.
9. Immerse slides in Working Phosphotungstic/Phosphomolybdic Acid for 5-6 minutes.
10. Discard solution after use.
11. Immerse slides in Aniline Blue for five minutes.
12. Pour off solution and immerse slides in 1% Acetic Acid for two minutes.
13. Pour off Acetic Acid and rinse in tap water. Acetic Acid removes some of the stain and provides better contrast.
14. Rinse slides in 70% ethanol.
15. Pour off solution and rinse slides in 100% ethanol.
16. Pour off solution and rinse slides in Xylene.
17. Dry slides for 30 minutes in fume hood and mount coverslip with Permount.

APPENDIX B: RAW DATA

FUNCTIONAL DATA

Animal	Mass: Surgery (g)	Mass: Vehicle (g)	Mass: FM (g)	Defect Mass (mg)	Def LGAS Mass (mg)	Def MGAS Mass (mg)	Def SOL Mass (mg)	Def PLAN Mass (mg)	Def LGAS Length (mm)	Def LGAS CSA (cm2)	Def Tetanic Force (N)	Def N/g	Def Specific Tension (N/cm^2)
ECM Only													
Saline15601	590	602	658	330	1126	2085	532	900	30.5	0.93	10.10	8.97	10.81
Saline15602	550	540	572	380	1277	1478	349	723	31	1.04	10.90	8.54	10.46
Saline15603	506	502	525	348	1195	1372	303	714	30	1.01	10.30	8.62	10.22
Saline15604	572	560	596	404	1418	1655	273	859	31	1.16	8.00	5.64	6.91
Saline15605	563	555	607	408	1402	1668	379	839	30	1.18	---	---	---
Saline15606	615	611	604	365	1624	1938	376	919	32	1.28	11.80	7.27	9.19
Saline15607	581	---	685	370	1149	1715	424	881	30	0.97	13.30	11.58	13.72
Saline15608	563	---	621	375	1309	1503	402	738	30	1.10	11.90	9.09	10.78
Mean:	**567.5**	**561.7**	**608.5**	**372.5**	**1312.5**	**1676.8**	**379.8**	**821.6**	**30.6**	**1.1**	**10.9**	**8.5**	**10.3**
SEM:	**11.3**	**16.5**	**17.4**	**9.2**	**58.7**	**84.5**	**28.0**	**29.6**	**0.3**	**0.0**	**0.6**	**0.7**	**0.8**

Animal	Con LGAS Mass (mg)	Con MGAS Mass (mg)	Con SOL Mass (mg)	Con PLAN Mass (mg)	Con LGAS Length (mm)	Con LGAS CSA (cm2)	Con Tetanic Force (N)	Con N/g	Con Specific Tension (N/cm2)	Def Force (% Contralateral)	Specific Tension (% Contralateral)	% CON LGAS MASS
ECM Only												
Saline15601	1800	1826	381	880	30.5	1.49	28.70	15.94	19.22	35.20	56.26	62.56
Saline15602	1949	1519	284	688	31	1.59	27.10	13.90	17.03	40.20	61.39	65.52
Saline15603	1485	1362	264	555	30	1.25	*24.00*	16.16	19.16	42.92	53.33	80.47
Saline15604	1895	1573	280	807	30	1.60	21.60	11.40	13.51	37.00	51.15	74.83
Saline15605	2101	1759	372	781	30	1.77	---	---	---	---	---	66.73
Saline15606	1793	1532	264	707	30	1.51	26.10	14.56	17.26	45.21	53.24	90.57
Saline15607	1881	1649	400	931	30	1.59	29.30	15.58	18.47	45.39	74.31	61.08
Saline15608	1762	1602	390	892	30	1.49	27.60	15.66	18.57	43.10	58.04	74.29
Mean:	**1833.3**	**1602.8**	**329.4**	**780.1**	**30.2**	**1.5**	**26.3**	**14.7**	**17.6**	**41.3**	**58.2**	**72.0**
SEM:	**62.7**	**51.3**	**21.6**	**44.4**	**0.1**	**0.1**	**1.0**	**0.6**	**0.8**	**1.5**	**3.0**	**3.6**

Animal	Mass: Surgery (g)	Mass: Cells (g)	Mass: FM (g)	Defect Mass (mg)	Def LGAS Mass (mg)	Def MGAS Mass (mg)	Def SOL Mass (mg)	Def PLAN Mass (mg)	Def LGAS Length (mm)	Def LGAS CSA (cm2)	Def Tetanic Force (N)	Def N/g	Def Specific Tension (N/cm^2)
MSC Injection													
MSC15601	600	580	615	370	1490	1802	604	869	31	1.22	18.70	12.55	15.38
MSC15602	629	590	624	462	1326	1827	428	818	30	1.12	12.70	9.58	11.35
MSC15603	530	559	615	224	1476	1826	347	814	30	1.24	18.40	12.47	14.78
MSC15604	614	638	707	367	1621	1878	467	934	32	1.28	18.70	11.54	14.59
MSC15605	544	576	660	358	1524	1930	378	923	30	1.29	19.20	12.60	14.94
MSC15606	544	574	673	349	1363	1663	384	838	30	1.15	17.10	12.55	14.87
MSC15607	604	606	676	420	1390	1840	431	695	32	1.10	12.80	9.21	11.65
Mean:	**580.7**	**589.0**	**652.9**	**364.3**	**1455.7**	**1823.7**	**434.1**	**841.6**	**30.7**	**1.2**	**16.8**	**11.5**	**13.9**
SEM:	**15.1**	**9.8**	**11.7**	**27.9**	**38.8**	**31.2**	**32.1**	**30.4**	**0.4**	**0.0**	**1.1**	**0.6**	**0.6**

Animal	Con LGAS Mass (mg)	Con MGAS Mass (mg)	Con SOL Mass (mg)	Con PLAN Mass (mg)	Con LGAS Length (mm)	Con LGAS CSA (cm2)	Con Tetanic Force (N)	Con N/g	Con Specific Tension (N/cm2)	Def Force (% Contralateral)	Specific Tension (% Contralateral)	% CON LGAS MASS
MSC Injection												
MSC15601	1653	1407	361	754	30	1.39	*26.00*	15.73	18.65	71.9	82.5	90.1
MSC15602	1718	1535	307	641	30	1.45	26.30	15.31	18.15	48.3	62.6	77.2
MSC15603	1936	1677	284	767	31	1.58	27.40	14.15	17.34	67.2	85.2	76.2
MSC15604	---	---	---	---	---	---	---	---	-	-	-	-
MSC15605	2032	1979	358	882	30	1.71	28.00	13.78	16.34	68.6	91.4	75.0
MSC15606	1958	1848	331	774	30	1.65	28.40	14.50	17.20	60.2	86.5	69.6
MSC15607	1592	1443	257	489	31	1.30	25.50	16.02	19.62	50.2	59.3	87.3
Mean:	**1814.8**	**1648.2**	**316.3**	**717.8**	**30.3**	**1.5**	**26.9**	**14.9**	**17.9**	**61.1**	**77.9**	**79.2**
SEM:	**74.7**	**93.7**	**16.9**	**55.4**	**0.2**	**0.1**	**0.5**	**0.4**	**0.5**	**4.1**	**5.5**	**3.2**

Animal	Mass: Surgery (g)	Mass: PEG (g)	Mass: FM (g)	Defect Mass (mg)	Def LGAS Mass (mg)	Def MGAS Mass (mg)	Def SOL Mass (mg)	Def PLAN Mass (mg)	Def LGAS Length (mm)	Def LGAS CSA (cm2)	Def Tetanic Force (N)	Def N/g	Def Specific Tension (N/cm^2)
PEG Injection													
PEG15601	581	587	642	325	1299	1835	338	950	30	1.10	14.60	11.24	13.32
PEG15602	525	550	582	243	1289	1391	389	684	31	1.05	13.20	10.24	12.55
PEG15603	600	628	---	296	---	---	---	---	---	---	---	---	---
PEG15604	612	608	670	232	1527	1594	381	610	33	1.17	13.50	8.84	11.53
PEG15605	560	582	612	262	1460	1574	408	697	32	1.15	13.70	9.38	11.87
PEG15606	704	709	760	370	1445	1756	351	841	30	1.22	14.60	10.10	11.98
PEG15607	678	656	798	354	1390	1918	373	---	30	1.17	13.70	9.86	11.68
PEG15608	758	730	801	305	1529	1906	375	892	32	1.21	14.90	9.74	12.32
Mean:	**627.3**	**631.3**	**695.0**	**298.4**	**1419.9**	**1710.6**	**373.6**	**779.0**	**31.1**	**1.2**	**14.0**	**9.9**	**12.2**
SEM:	**27.9**	**22.3**	**34.2**	**17.8**	**37.2**	**74.5**	**8.8**	**54.8**	**0.5**	**0.0**	**0.2**	**0.3**	**0.2**

Animal	Con LGAS Mass (mg)	Con MGAS Mass (mg)	Con SOL Mass (mg)	Con PLAN Mass (mg)	Con LGAS Length (mm)	Con LGAS CSA (cm^2)	Con Tetanic Force (N)	Con N/g	Con Specific Tension (N/cm^2)	Def Force (% Contralateral)	Specific Tension (% Contralateral)	% CON LGAS MASS
PEG Injection												
PEG15601	1815	1667	339	706	30	1.53	28.90	15.92	18.88	50.5	70.6	71.6
PEG15602	1663	1431	342	731	31	1.36	28.60	17.20	21.07	46.2	59.5	77.5
PEG15603	---	---	---	---	---	---	---	---	---	---	---	---
PEG15604	1643	1292	282	501	32	1.30	27.40	16.68	21.09	49.3	54.7	92.9
PEG15605	1636	1296	285	575	30	1.38	26.80	16.38	19.42	51.1	61.1	89.2
PEG15606	2034	1680	295	651	30	1.72	30.10	14.80	17.54	48.5	68.3	71.0
PEG15607	1903	1448	311	735	30	1.61	27.90	14.66	17.38	49.1	67.2	73.0
PEG15608	1985	1842	324	891	32	1.57	29.20	14.71	18.60	51.0	66.2	77.0
Mean:	**1811.3**	**1522.3**	**311.1**	**684.3**	**30.7**	**1.5**	**28.4**	**15.8**	**19.1**	**49.4**	**64.0**	**78.9**
SEM:	**63.5**	**79.6**	**9.4**	**47.5**	**0.4**	**0.1**	**0.4**	**0.4**	**0.6**	**0.7**	**2.1**	**3.3**

Animal	Mass: Surgery (g)	Mass:PEG+Cells (g)	Mass: FM (g)	Defect Mass (mg)	Def LGAS Mass (mg)	Def MGAS Mass (mg)	Def SOL Mass (mg)	Def PLAN Mass (mg)	Def LGAS Length (mm)	Def LGAS CSA (cm2)	Def Tetanic Force (N)	Def N/g	Def Specific Tension (N/cm^2)
PEG + MSC Injection													
Combo15601	675	698	798	256	1809	1635	340	763	34	1.35	15.50	8.57	11.51
Combo15602	500	511	561	245	1254	1304	364	683	32	0.99	18.30	14.59	18.45
Combo15603	546	544	590	285	1453	1593	390	640	33	1.11	19.80	13.63	17.77
Combo15604	662	636	700	270	1523	1551	338	674	32	1.20	19.50	12.80	16.19
Combo15605	602	685	764	250	1857	1764	378	733	33	1.42	21.50	11.58	15.10
Combo15606	760	733	810	284	1814	1716	374	659	33	1.39	22.00	12.13	15.82
Combo15607	670	670	696	286	1660	1705	404	711	32.5	1.29	22.10	13.31	17.10
Combo15608	650	646	699	260	1184	1258	252	700	33	0.91	10.10	8.53	11.12
Combo15609	517	512	550	255	1144	1380	289	596	31	0.93	15.80	13.81	16.92
Mean:	**620.2**	**626.1**	**685.3**	**265.7**	**1522.0**	**1545.1**	**347.7**	**684.3**	**32.6**	**1.2**	**18.3**	**12.1**	**15.6**
SEM:	**28.5**	**27.8**	**32.9**	**5.3**	**93.7**	**62.5**	**16.5**	**16.7**	**0.3**	**0.1**	**1.3**	**0.7**	**0.9**

Animal	Con LGAS Mass (mg)	Con MGAS Mass (mg)	Con SOL Mass (mg)	Con PLAN Mass (mg)	Con LGAS Length (mm)	Con LGAS CSA (cm^2)	Con Tetanic Force (N)	Con N/g	Con Specific Tension (N/cm^2)	Def Force (% Contralateral)	Specific Tension (% Contralateral)	% CON LGAS MASS
PEG + MSC Injection												
Combo15601	1894	1622	332	671	34	1.41	---	---	---	---	---	95.5
Combo15602	1284	1301	284	562	31	1.05	20.80	16.20	19.85	88.0	93.0	97.7
Combo15603	1302	---	---	---	33	1.00	20.10	15.44	20.13	98.5	88.3	111.6
Combo15604	1500	1380	316	579	32	1.19	26.20	17.47	22.09	74.4	73.3	101.5
Combo15605	1954	1545	343	683	33	1.50	30.30	15.51	20.22	71.0	74.7	95.0
Combo15606	1860	1618	334	606	32	1.47	28.80	15.48	19.58	76.4	80.8	97.5
Combo15607	1834	1497	353	656	33	1.41	27.30	14.89	19.41	81.0	88.1	90.5
Combo15608	1266	1177	244	591	32	1.00	19.50	15.40	19.48	51.8	57.1	93.5
Combo15609	1345	1162	264	481	30	1.13	23.40	17.40	20.63	67.5	82.0	85.1
Mean:	**1582.1**	**1412.8**	**308.8**	**603.6**	**32.2**	**1.2**	**24.6**	**16.0**	**20.2**	**76.1**	**79.7**	**96.4**
SEM:	**99.1**	**65.8**	**14.1**	**23.6**	**0.4**	**0.1**	**1.5**	**0.3**	**0.3**	**4.9**	**4.0**	**2.5**

HISTOLOGICAL DATA: CROSS SECTIONAL AREA

Top region of ECM

SAL group

1567.55	2303.27	1796.08	770.01	623.30	5004.08	1211.53	743.41	1508.50	3191.08	236.37	3138.02	2078.74	2966.86	3686.12
1932.80	1684.89	1135.41	1648.29	492.27	4996.54	982.85	348.17	3616.46	1622.91	209.61	2660.36	1977.39	1496.19	1050.83
1963.25	3314.26	2142.41	5322.26	201.46	3746.87	834.45	733.41	2247.29	2420.61	2384.47	3637.83	2600.85	417.38	3128.34
2809.84	1723.03	620.07	3573.24	466.13	11220.45	1594.31	632.83	2799.23	1990.00	1766.09	1726.41	1901.42	3520.65	2750.63
1978.16	3321.18	1116.96	525.64	629.30	3761.48	1714.42	192.39	2544.25	2526.57	306.81	4018.76	2468.74	2003.54	1588.01
2192.85	1444.52	1206.46	2556.09	333.87	9596.00	732.33	1120.03	3467.28	4088.89	358.17	3104.65	1582.62	1653.21	1550.48
1026.07	1998.92	2377.86	2280.20	162.25	2216.23	1498.04	715.57	2482.12	862.13	343.41	2485.81	1078.35	1508.65	909.04
949.17	1929.87	1614.46	2352.02	203.92	6649.29	1040.06	1775.47	2252.83	3384.08	4415.23	2760.32	1629.53	2800.46	376.62
1496.50	2039.52	2417.38	3577.55	276.97	9606.61	631.91	460.90	3075.89	1572.47	3137.72	3463.28	2114.57	3252.75	1643.37
2157.02	1676.28	1833.91	1076.20	442.14	6165.17	1518.65	455.83	4026.91	735.10	1574.16	2273.13	2245.44	2126.11	704.65
1872.66	2077.82	1166.32	1072.66	250.52	5607.84	1020.07	1323.65	2700.19	331.72	223.61	3507.57	2112.88	1678.12	1177.09
3393.16	2239.91	921.80	4330.64	127.18	9562.63	1798.85	1062.51	3137.10	649.60	4821.22	2064.44	4142.87	1655.21	324.18
1824.22	1526.80	1409.61	2160.09	185.62	9891.27	1419.45	1382.24	3198.77	135.95	2939.02	3513.73	1757.63	4284.66	589.16
1266.59	3215.69	2515.65	3997.85	245.75	5716.88	2018.15	1148.94	2223.91	349.71	413.23	3499.27	1789.16	1711.96	225.45
1184.78	2655.75	1576.16	4037.68	149.17	7369.78	3858.67	1027.76	2421.99	299.42	703.27	1789.62	4023.68	2259.44	882.12
1668.28	2925.80	1192.93	3510.50	208.54	7436.37	3269.82	822.76	4370.78	189.16	1436.83	3933.26	1770.86	1843.91	682.51
2769.40	3043.75	718.34	2032.45	185.93	2248.06	4888.74	1338.56	4022.45	206.54	1780.09	2918.11	1829.30	876.43	2646.98
2361.25	1635.68	1226.30	2236.06	324.49	7166.78	720.19	591.31	3731.03	4530.72	903.96	473.97	2402.92	2088.27	3115.11
1078.35	2598.85	665.74	2659.13	64.59	9746.25	698.35	734.33	2256.06	1430.22	1484.66	674.20	1939.56	2373.40	3990.77
2696.19	1345.79	1831.14	3582.93	126.26	5968.01	2988.70	737.56	3678.12	538.10	1468.05	561.02	919.80	863.05	1977.55
3022.53	2051.98	3940.95	3556.94	294.96	7623.53	825.22	1033.76	3568.01	573.01	639.91	315.26	4280.66	706.19	4036.76
1601.08	1944.64	3038.99	2911.03	63.82	5784.08	1163.25	885.35	2864.44	548.40	281.12	956.40	2657.44	1773.63	6143.33
3174.47	5753.17	3173.40	2953.48	119.03	3108.04	1591.08	525.18	1810.53	4510.11	7251.37	439.68	1614.15	1431.60	2272.51
1880.97	2092.58	2532.41	3423.30	138.26	8328.34	919.34	703.88	4473.82	3077.28	688.50	367.86	2872.90	511.65	2209.46
2679.12	289.74	2909.96	2681.58	255.44	4622.38	1108.50	1301.04	2776.62	2704.34	2466.59	459.82	2208.23	594.08	621.30
3134.33	172.86	2771.55	291.58	392.00	1889.27	669.13	949.79	4854.29	794.77	2922.41	548.10	3321.18	215.76	993.62

2738.79	1864.21	3205.69	559.32	264.82	1960.17	730.95	673.28	3559.71	2051.98	624.38	841.06	3594.46	877.97	2936.56
2068.44	1669.05	2036.14	683.58	203.15	493.35	998.23	917.49	2958.71	1997.69	883.66	404.92	1830.99	716.49	395.39
2579.16	2704.04	2510.27	597.16	114.73	448.60	1084.81	518.72	3150.94	675.89	1261.05	490.73	1887.58	282.66	1571.70
1819.61	3036.06	3733.03	576.09	413.53	2174.39	862.13	752.63	2223.15	3131.57	2987.16	863.82	3043.14	137.79	1626.30
999.15	1866.05	3930.03	1209.23	445.21	559.02	1055.75	989.00	2244.06	1249.67	1180.47	458.44	2602.23	722.95	489.20
813.53	1328.87	3307.19	432.91	280.66	2377.70	1626.14	452.13	3429.14	283.43	1359.02	1025.76	2223.15	536.10	546.41
1767.63	1847.91	2271.90	474.89	829.99	584.39	1000.38	724.80	3358.40	3371.01	3778.39	444.44	2824.91	344.18	508.27
2094.27	1411.00	1418.69	533.64	898.27	911.34	842.45	348.64	2119.34	3583.39	2352.02	440.60	2620.68	222.84	1238.29
1791.77	783.55	2243.75	746.64	292.20	1904.81	811.23	798.16	2256.36	4503.19	713.88	934.56	2418.30	700.65	243.14
1785.31	2432.14	2592.23	1569.24	388.77	857.52	1810.53	1181.85	3925.72	2462.59	974.24	1326.11	2897.96	192.54	176.09
2413.53	968.09	1637.83	1036.83	722.18	515.03	802.61	1526.80	2710.34	1895.12	277.89	944.41	3777.93	300.81	1677.82
1582.93	2479.97	2323.26	1532.33	613.30	841.06	965.32	597.31	2863.82	2798.77	810.77	410.00	2019.69	214.84	310.80
2495.04	1405.61	3643.52	2673.28	374.01	1651.06	655.90	1317.96	2845.98	2325.72	911.50	289.58	1681.97	366.78	259.13
2096.73	1663.36	2682.97	269.59	625.76	1434.06	669.28	696.50	2637.29	741.87	507.81	853.21	1875.89	564.25	2213.76
2116.42	2010.61	3561.71	683.74	260.36	954.71	616.84	1000.38	2639.29	888.58	425.68	745.71	2529.80	411.07	2395.69
1827.14	1146.64	2109.65	4168.40	247.44	411.69	1965.24	810.30	2478.89	724.34	1653.21	548.40	2461.82	513.03	1395.93
2458.90	2480.89	788.93	1016.38	316.03	890.58	677.28	737.10	2184.54	1030.68	426.76	323.72	1817.30	220.22	1375.93
3055.44	681.89	2448.29	1628.91	899.96	1458.21	848.14	854.59	1737.95	330.03	1077.43	1134.49	2452.90	0.15	906.57
1763.63	1663.98	1971.55	191.47	320.95	695.58	501.50	733.56	3043.60	608.23	8648.37	1278.59	3251.37	332.18	2747.10
2407.07	2157.17	2549.33	133.03	366.32	597.92	568.55	799.08	4212.69	612.53	3151.10	324.64	1756.09	154.71	1032.37
1691.35	2918.57	1289.97	106.27	262.82	625.61	583.47	359.25	2326.03	398.92	4613.30	952.56	2782.93	278.97	1617.69
1386.85	2304.04	2332.03	235.45	748.17	1384.39	388.16	449.83	2960.40	333.41	4761.86	1158.63	3418.22	755.09	2827.07
1983.08	2898.58	1731.49	1366.24	486.43	382.16	1058.98	484.74	3186.93	65.21	3924.03	1148.48	1651.98	247.75	5725.03
2305.27	3433.76	1042.37	300.50	295.27	1288.74	1212.15	1347.94	3235.37	311.88	7248.90	544.71	476.43	1254.59	2824.45
1219.07	2681.28	1657.06	679.28	493.20	443.06	1682.12	621.61	3557.25	203.92	5472.51	677.43	367.86	565.01	1817.92
2037.06	1928.80	2255.29	254.52	495.35	563.17	994.54	1459.44	2952.86	258.52	5980.78	911.80	1639.99	539.64	3521.72
1365.63	2867.05	2301.88	268.82	601.00	644.68	1127.87	1018.84	1417.46	159.17	5657.98	963.17	1166.63	421.68	2249.29
1693.81	1902.04	1561.40	316.03	1183.85	402.00	1679.66	1417.61	1845.75	94.89	4278.51	996.54	2315.26	750.94	1663.21
1465.13	1196.77	1682.58	149.33	239.75	1808.84	2368.47	1683.05	3069.90	447.21	5323.03	718.95	377.09	1212.61	2569.47
1772.09	935.79	763.71	323.41	333.56	386.31	1762.86	1330.10	3070.67	139.79	2830.14	802.77	2432.60	170.55	8616.69
1137.87	1464.67	1802.69	253.29	246.98	744.48	2388.31	1204.00	1789.00	179.32	991.31	1096.50	219.61	249.29	9484.20

1222.61	1422.22	922.57	485.51	563.78	2255.75	2953.17	1474.51	1788.54	139.64	4316.19	942.41	1529.87	892.27	1326.41
1171.24	2019.69	2209.00	1023.61	2048.44	759.86	2289.12	2207.31	1918.65	649.14	1657.52	1285.81	588.08	1224.76	2881.51
1033.91	807.84	1019.61	870.43	689.74	1922.65	1792.08	764.78	2507.34	457.67	3580.78	1064.82	1458.36	1908.19	3879.59
1297.96	1643.37	1887.12	135.95	288.66	1191.85	2331.10	1192.93	848.14	279.59	2006.00	985.01	1665.51	720.80	5008.69
1424.53	2356.02	2843.83	1343.18	1396.08	1298.12	1403.77	1128.64	1504.65	282.66	6422.91	476.59	1367.94	899.19	3645.06
2402.00	2281.74	2743.10	587.01	803.23	1159.71	1687.97	1494.20	2405.38	210.07	4261.90	490.89	3039.91	1365.48	802.31
2402.00	2339.56	1996.00	1497.27	623.61	858.13	1779.16	1297.50	2089.66	551.63	1568.78	744.64	5076.51	772.93	609.46
1719.03	2655.13	2116.57	1315.96	1154.17	560.55	293.73	1265.67	991.62	433.68	2814.92	533.03	413.53	1134.64	1005.00
2782.16	1311.80	1048.67	134.26	373.24	700.81	210.23	832.30	2563.63	174.86	2481.20	707.73	1866.05	2364.94	951.02
1436.06	1406.08	2147.48	209.15	520.72	2663.44	2055.36	1108.04	1163.55	1106.50	3649.98	342.18	2029.53	1090.66	3734.41
1264.28	1344.25	1809.61	743.87	158.86	2902.88	1527.41	1231.37	2950.87	335.41	1686.12	495.96	1471.74	1005.77	527.34
2406.77	2219.61	1276.59	163.48	717.26	2387.54	2585.31	996.39	3506.65	802.92	2028.60	1196.77	2958.40	1935.87	995.00
3312.42	1566.32	1830.07	623.45	734.03	903.65	675.43	416.61	3459.90	183.78	1775.32	446.91	2930.57	1379.93	5874.82
3248.44	2319.88	2023.07	1874.82	626.22	773.24	2032.60	210.84	2402.15	141.33	1769.32	595.62	3036.06	1740.25	3163.86
2403.23	1516.49	2643.75	1097.89	1324.88	2121.03	1769.94	132.87	1145.41	339.56	1644.75	621.92	717.72	2427.68	531.33
2100.42	1501.42	601.00	207.77	1005.92	2959.48	1447.60	622.22	334.79	435.37	1328.41	1426.37	1690.12	2304.96	1964.63
2107.19	877.20	262.05	1759.02	1113.73	816.92	507.34	146.71	2657.90	383.85	1992.46	1279.05	2538.26	1350.40	909.34
1649.52	1375.93	217.92	1152.63	842.14	1067.59	1588.31	115.49	3783.01	286.97	3307.65	1127.11	963.48	905.04	2791.54
2609.46	3039.14	1137.26	1006.54	712.65	912.88	508.73	333.26	3076.05	236.68	3196.92	528.41	3866.21	1664.59	1273.36
2004.31	1892.66	551.02	105.04	866.28	1704.11	1689.81	242.68	2144.10	565.17	3761.17	1142.48	2848.44	967.47	1103.73
3266.59	1177.09	203.46	143.02	252.36	1999.08	1916.34	68.59	3622.45	493.50	2664.21	735.56	2230.22	1633.83	1054.98
3076.05	1186.77	173.78	1210.77	341.87	1360.71	2086.28	954.56	1799.15	324.18	3926.80	438.91	1106.50	1650.75	2356.63
944.71	1784.08	147.79	1850.67	1441.60	655.13	1629.68	803.08	2794.31	486.89	2864.13	703.11	829.53	617.15	5240.91
2508.73	1917.26	464.44	893.96	1714.26	789.24	1113.26	781.85	2356.17	248.37	2615.92	574.55	539.33	454.44	6927.49
2456.29	1906.19	1824.53	1910.96	717.88	1110.96	2403.54	913.50	2831.53	139.64	2431.37	2123.65	518.11	2175.01	5070.97
2719.88	1328.72	3004.69	1055.75	596.08	590.24	1199.54	1976.62	3080.97	186.85	3245.52	359.86	1016.84	409.84	5626.14
3194.31	1574.63	2104.73	1367.94	334.18	1479.74	1051.44	2297.89	1929.57	328.64	2690.81	461.36	1026.22	732.64	4982.39
2057.52	1345.33	2461.82	1135.56	162.09	2385.54	1292.73	2531.18	3194.62	239.29	2709.88	763.40	3915.57	2474.13	5917.72
1446.21	649.29	529.80	1339.49	448.29	987.16	1457.44	2354.48	2393.70	434.60	3088.04	1713.50	2160.86	2845.83	2125.34
2496.12	1578.47	390.47	911.80	518.42	596.08	1088.66	1264.44	3059.13	312.96	3083.74	601.31	2930.72	1056.82	313.26

2198.54	563.17	296.50	415.38	772.47	1113.88	1687.66	2552.71	2927.64	530.26	2271.28	1977.86	3038.37	1048.06	571.47
358.48	876.59	638.68	2265.59	234.99	1039.60	1536.03	4163.48	1050.37	270.36	2805.38	1982.62	2477.05	657.13	4055.36
3269.20	1159.86	2382.47	279.74	449.37	1256.29	2142.41	1598.16	2389.08	214.99	2420.45	1012.38	1559.25	1163.55	2877.51
1259.36	809.84	648.37	389.39	741.56	1749.33	979.78	2161.48	2854.13	762.02	2893.04	2513.80	1153.40	993.93	447.83
924.11	1331.33	345.10	512.88	238.99	1152.79	1618.61	2756.17	1603.54	387.85	2293.12	1832.37	2344.18	668.36	539.18
1568.63	886.43	2977.32	58.75	527.64	2234.99	1885.74	2597.62	1716.26	193.16	3042.37	1066.67	479.20	1219.69	345.10
1680.58	2282.20	1164.63	217.61	328.64	1347.02	1587.08	2812.76	2445.83	575.78	2929.64	2222.38	4092.27	478.12	2153.33
2482.28	1027.14	562.40	702.50	300.65	1610.30	2772.32	2338.33	4348.94	179.78	1995.23	1355.48	5657.52	1494.35	958.86
3870.51	1533.56	408.92	164.86	374.32	1001.46	2532.26	1685.51	1542.79	277.28	2486.12	1014.69	1802.38	772.32	16237.45
3396.23	738.18	1664.44	189.16	219.15	828.45	3107.73	1761.48	2471.05	335.72	2728.80	2261.90	2792.16	1012.69	6121.34
4353.71	1453.75	4151.02	252.21	71.20	1399.62	2611.61	1922.49	1960.78	189.93	1622.76	1570.78	2734.95	930.57	5584.16
4636.52	1456.21	3725.95	1147.25	356.94	691.58	1646.60	491.20	1686.74	226.07	2627.45	1537.56	2175.78	373.24	6873.36
4275.89	1511.11	696.96	570.09	126.41	1891.58	212.53	1145.41	635.91	284.35	3166.47	1299.81	3785.93	1409.30	8224.53
2649.60	1965.24	1060.52	121.03	467.67	1950.17	163.78	3213.69	736.49	385.39	3420.68	1809.00	3678.89	1136.64	4406.00
2280.97	1543.10	1046.67	347.41	292.96	1434.99	186.70	1543.56	435.22	399.39	2218.99	1498.65	2274.97	294.20	509.50
2067.67	1560.02	790.77	278.97	1469.90	1282.43	327.11	2563.78	934.87	287.43	4501.19	2241.60	4710.80	1595.85	873.51
2679.12	1517.42	2766.01	605.77	745.41	897.66	415.53	1401.31	1025.45	141.48	3594.46	2048.60	4659.13	1609.07	272.82
1533.56	1493.12	1456.52	96.42	230.07	951.63	310.04	2151.79	541.02	281.12	2224.07	1835.14	2016.92	3623.68	4428.30
2933.49	944.25	286.20	265.13	1042.98	809.69	393.85	2281.74	3287.66	183.16	2497.04	1873.90	2341.10	3528.64	1459.59
1609.54	1390.39	517.34	281.74	390.00	1356.40	144.56	1040.52	5492.50	328.49	1562.02	980.24	1705.50	1707.96	5716.72
3394.23	1407.61	1526.64	107.04	11078.82	1797.31	150.40	588.70	2277.43	445.68	1288.58	1308.73	3000.85	728.03	3021.76
4111.03	949.17	600.08	209.77	9356.40	1099.58	1156.94	960.25	3871.90	230.22	2861.21	1757.48	1668.90	2563.32	5445.75
2753.86	2687.12	638.68	210.53	5952.79	1511.27	909.04	1602.46	2800.31	221.76	2903.81	1327.95	3279.51	1072.36	7843.45
														9104.96
														2969.01

PEG group

5615.07	2594.85	997.16	1121.57	1782.70	2856.44	3214.92	3107.42	653.13	2220.68	1255.67	1875.59	3478.66	228.07	752.79
4968.09	2656.06	2371.24	667.44	2102.88	2966.55	3462.21	3915.26	2026.30	3924.34	329.41	3042.68	1812.38	346.33	2184.85
2467.21	1640.29	1832.22	710.96	1612.46	2288.20	3218.15	2067.97	498.58	3358.09	709.57	4045.83	1371.47	289.43	1602.00
2239.60	1272.28	1591.54	2826.76	2277.74	1918.19	2763.40	5661.36	768.78	2361.86	536.87	3722.72	2918.11	306.81	385.70
4660.98	1639.37	1932.18	448.29	2496.42	4254.67	2958.25	6946.56	1643.98	2426.91	1342.25	4412.61	2107.96	460.29	293.58
3493.12	2181.93	2907.81	2511.80	1328.11	1440.37	4801.54	1867.90	2204.08	1818.07	1279.66	2606.08	1711.65	404.61	418.30
6234.99	851.21	1684.43	1744.41	2540.10	2083.66	2063.05	4252.21	2458.29	2151.48	1531.57	2425.07	1398.85	154.40	1666.28
9935.56	2041.52	1762.40	1426.99	3619.38	2879.35	3490.20	2036.14	657.90	2524.88	2536.10	3248.75	1634.45	300.96	1583.85
5076.36	1423.61	2087.35	838.29	1796.85	2245.75	3138.49	2461.82	950.25	4585.31	264.82	3088.20	1337.49	259.44	1613.53
3399.46	2771.55	1284.58	1592.31	3461.13	2261.28	1685.66	4275.59	616.69	2726.64	439.83	3136.18	2252.67	652.06	2044.60
7594.77	4014.61	1218.76	714.49	541.48	1862.51	2226.53	7090.97	768.63	2933.18	735.87	2894.89	1246.44	507.04	1268.74
2429.99	2077.05	3699.35	1477.43	2394.77	1165.09	280.20	4637.29	380.16	2926.57	511.03	3115.26	916.57	408.77	1317.65
5789.93	2570.55	951.33	3510.34	2607.31	2359.86	3709.80	3234.45	683.74	4372.63	1381.78	2874.43	842.75	395.39	1481.58
6774.47	2690.04	960.86	1482.97	1710.73	2606.08	1920.34	2469.97	353.10	4985.78	1080.66	3344.25	1215.99	442.91	1034.37
3184.47	2041.06	2303.27	336.64	3490.50	1030.83	2574.55	2627.61	931.49	592.39	565.32	2408.00	2174.70	759.71	341.41
8543.02	2393.08	2454.29	331.41	2591.47	2003.23	3323.49	5275.82	262.67	2520.88	1536.64	2365.55	323.26	747.87	988.24
6386.93	3290.73	2227.91	1102.81	2699.73	1619.69	4529.64	3805.92	439.52	521.18	640.83	1410.69	311.73	224.38	2218.69
5723.80	2766.63	2771.55	1625.99	1016.23	1865.59	4376.16	5180.78	691.12	1456.36	475.66	2231.14	246.83	736.33	735.87
6252.52	2716.96	2151.79	422.30	249.90	3438.06	4601.77	2460.59	555.33	992.54	411.84	2382.47	1048.21	599.92	1401.31
7861.28	2579.16	1629.99	4805.38	920.72	2237.45	2664.36	3801.00	449.83	2843.83	433.22	2482.74	916.42	465.05	3104.65
6174.70	2567.78	1783.31	4436.60	2207.77	2075.66	2784.31	3013.92	312.50	1131.87	336.03	1872.51	3263.21	892.12	1789.16
2465.98	2569.17	2742.95	902.58	598.54	1452.67	2054.90	1850.98	469.51	253.60	1238.14	2793.85	673.90	246.98	1075.28
6325.88	2591.93	501.04	561.32	179.78	382.47	2579.93	2210.07	887.20	799.54	2103.65	3149.87	2606.84	286.51	869.36
11111.57	2194.23	2069.20	1672.74	1325.34	3139.56	4261.75	1940.79	1257.67	1835.29	416.92	2773.24	1568.94	271.74	905.65
1725.03	1895.73	150.71	396.16	1756.86	1265.82	3763.17	1745.02	759.40	2410.46	1865.13	2219.45	1877.89	508.27	558.40
13290.73	1782.39	420.45	3551.40	3339.79	1371.78	2203.61	1245.52	971.78	1310.42	2129.80	2510.57	858.75	1431.91	694.20
10108.27	2895.66	225.14	1081.74	2557.17	1688.27	5190.16	1901.27	264.67	2139.33	485.97	2630.99	486.43	498.27	726.49
8835.22	2950.10	583.47	1656.44	3348.56	1835.76	3601.38	2340.79	322.03	227.76	268.67	2933.33	240.68	954.10	514.73
7585.85	3280.43	662.05	1727.03	270.05	1047.60	4932.56	1678.12	461.21	2254.83	356.94	3164.94	738.64	911.50	1430.07

3454.36	1914.03	314.80	1042.52	1648.75	2630.53	2620.22	1968.01	565.63	670.82	274.66	3881.89	1069.13	757.56	690.20
2305.42	2459.21	965.48	1462.05	3260.13	1641.52	3747.02	2272.82	347.41	690.81	1957.86	3312.11	582.85	671.74	827.22
3660.90	2752.63	500.12	1096.19	823.68	2925.34	2258.36	2371.09	488.58	1277.51	911.34	3630.60	1572.17	915.65	638.99
2659.59	2422.61	1050.67	1816.53	4581.16	2375.86	4035.06	1344.25	1026.84	173.32	1045.60	3026.53	1426.07	666.82	1174.32
5524.80	2774.47	943.48	2499.81	723.26	2413.23	2769.55	2257.59	1134.33	124.88	688.81	4313.26	431.22	1406.08	1231.53
2265.44	2239.91	1100.96	1492.66	890.27	1321.03	3534.33	2803.08	711.73	1200.31	1298.73	3580.62	953.33	2251.44	2060.29
4147.48	2449.52	698.65	1285.97	440.45	2508.42	2726.64	2273.90	465.51	1732.41	371.24	6635.60	1642.29	448.44	635.45
4871.51	2306.81	704.34	762.02	1285.97	1726.11	3338.26	2037.68	1188.62	1757.79	945.33	3680.74	1406.54	318.19	812.92
4230.53	1934.33	827.53	1715.19	761.71	2672.51	2617.30	1160.32	673.59	3867.90	379.55	4546.56	1286.89	562.86	1932.80
2301.42	2622.38	1136.79	725.26	1804.69	2316.96	2067.21	2199.31	1314.42	575.32	2060.29	4284.97	676.66	560.40	1939.72
5313.34	2519.34	259.90	1643.52	1595.69	2339.41	2550.71	2680.82	1888.97	2592.08	1067.90	3202.92	1063.90	754.17	543.48
2263.59	2555.33	384.62	1269.36	1262.90	2184.24	2543.64	2476.43	1255.52	651.29	859.82	3368.09	851.52	349.10	3082.35
4656.52	2157.02	634.68	2501.04	110.27	1345.94	2461.52	2891.04	1796.54	580.39	1197.69	4120.42	676.36	839.52	1012.53
3258.90	1729.34	768.94	789.70	4221.92	2776.62	2945.33	2275.89	1249.37	2330.03	532.10	5164.63	977.78	780.32	1890.20
3150.17	2866.44	749.71	1381.32	2467.36	4457.67	3933.26	2141.79	1060.67	1537.56	957.79	1584.78	1069.13	400.92	905.04
4411.38	2698.19	1075.28	721.88	929.64	2419.22	2530.57	3315.80	1079.12	1716.42	2226.22	1735.03	1338.41	1122.18	1077.59
2939.02	2730.18	7673.36	647.29	3145.87	2055.36	2728.95	2948.87	1260.75	1431.91	884.74	3933.10	1135.10	306.34	1365.48
3385.78	1191.70	833.99	545.02	3499.89	2250.06	3293.50	2914.73	1704.42	899.35	967.63	3950.94	1781.01	1625.53	1749.33
2073.66	1578.47	549.17	1278.74	652.98	3466.82	2595.00	3009.77	940.87	1116.96	893.81	3323.65	1880.82	854.44	357.56
7922.65	1604.31	740.48	1153.40	1414.38	756.63	3520.65	1995.69	695.27	660.67	3251.21	4829.84	2120.42	1586.77	612.38
4544.56	1015.15	1945.87	900.42	554.71	2302.96	3837.60	2387.54	766.47	527.64	615.76	2932.26	1831.45	655.75	1570.93
2035.68	727.11	244.06	1450.21	1614.46	1160.48	3395.00	3321.18	1413.61	481.51	590.08	3759.17	570.55	985.31	1264.59
7476.51	1543.87	1315.03	1870.97	2072.43	3412.07	2634.53	1445.29	1593.39	740.18	979.32	3426.84	695.43	555.79	1344.25
6099.04	2474.28	1105.27	1132.80	1054.06	4051.52	3178.78	2114.73	1736.41	565.63	862.59	3716.11	556.86	2135.95	1844.52
4180.70	2272.82	879.82	964.40	463.98	1687.04	2328.49	3039.29	912.88	1202.31	471.82	4112.73	4924.88	1227.53	1068.82
1028.22	2198.39	1124.34	762.94	195.00	1365.01	4178.85	1396.85	512.11	888.58	476.28	1679.82	2241.29	624.84	394.62
3558.63	2141.18	830.45	994.69	1695.04	5733.03	1921.57	1445.91	2847.52	941.33	272.66	3495.89	753.25	1068.97	3355.94
3969.24	1914.19	107.81	994.54	4000.62	3388.54	3702.88	1321.95	3471.43	867.97	368.94	2987.01	583.78	854.90	1876.82
2427.99	1712.88	140.87	1356.56	3080.97	2698.81	3702.88	2331.26	1604.92	668.82	577.78	4815.23	2455.83	1188.62	1994.62
1961.40	3111.42	914.26	1332.26	2269.59	2639.60	2137.02	1357.17	802.92	266.82	998.54	3261.05	1540.64	660.82	1884.35
3422.22	1969.09	378.32	996.08	2606.23	3144.18	3011.77	1453.90	869.20	2784.01	413.84	3826.22	1151.25	1543.87	582.85
3974.93	2294.20	249.75	889.50	1805.00	2129.18	2723.88	2006.77	3657.98	511.80	1902.19	4878.59	2089.66	680.66	707.11

4904.11	1917.26	429.37	1936.95	532.41	3188.01	3214.61	2207.00	435.68	1652.90	2093.35	4557.79	588.54	586.24	439.22
2243.29	2103.50	2162.71	831.22	2468.90	2588.24	2376.32	2200.38	2309.42	974.86	877.05	3165.86	1986.77	1124.18	467.82
2073.05	2401.38	1050.21	1528.49	4131.18	1312.73	2333.41	1682.43	2362.32	925.95	302.81	2997.77	1689.20	765.09	607.92
2400.46	1927.41	912.88	1008.38	3387.16	2834.30	3421.92	2034.91	919.03	1360.25	1009.00	3996.46	3126.18	1013.76	1369.47
3737.02	1903.42	2151.48	1100.50	2937.33	2907.65	2125.18	2424.76	1940.48	147.02	2156.71	3729.49	3326.11	926.26	859.98
3892.35	3465.74	902.73	932.26	243.45	3024.53	2997.62	2245.91	1462.36	202.23	745.87	3337.95	660.05	1018.22	341.72
4241.29	3249.67	1124.49	1336.72	921.18	2050.75	3583.55	2362.63	1331.80	154.86	1666.13	3022.38	248.98	430.91	1028.22
3087.27	2307.27	446.60	1240.29	776.01	3813.61	3583.39	1511.27	840.91	1048.98	581.16	5003.77	911.50	575.32	415.99
5234.60	914.88	348.17	1434.06	129.18	2100.12	3150.94	1869.74	959.63	1247.98	1296.58	4310.19	1355.94	905.34	663.13
6282.66	3099.73	1482.20	1768.70	1178.01	1914.19	2947.48	2417.53	2924.11	403.08	1282.89	2018.30	2725.57	967.17	284.97
3840.68	1773.47	1007.61	1604.46	1590.00	667.74	3383.16	1751.17	1016.07	314.65	928.26	3127.72	251.60	742.79	804.77
8348.64	3112.65	736.95	1988.77	1981.85	942.25	2880.58	2024.45	1056.67	626.53	785.24	4552.71	2960.40	1202.46	479.97
6107.19	1709.96	803.38	1825.30	4290.50	2238.37	3373.16	2234.53	517.49	878.28	815.99	4710.50	1257.52	599.77	540.10
2737.87	1528.49	796.62	1415.61	3376.39	2155.48	3262.75	1738.10	3748.25	1035.14	811.23	3331.03	602.38	942.41	610.38
4618.53	1331.64	272.82	1907.27	641.75	1175.70	3891.12	1868.21	2442.60	817.99	1191.08	3448.21	1232.45	918.11	780.78
2490.12	1528.80	1146.79	1097.42	3265.21	3088.04	2903.50	1790.85	2152.40	1047.29	583.01	3763.32	376.32	1211.53	2107.96
2318.65	2709.88	1000.38	949.48	1575.86	2928.72	3131.26	2545.18	1764.86	1116.80	795.69	3841.14	795.85	3692.27	1500.96
1960.32	1381.93	918.72	1219.84	791.54	2107.50	3103.27	2190.54	2023.68	738.49	569.47	2728.95	935.95	916.72	1096.81
2283.89	1495.58	1018.22	1875.89	355.09	3697.35	3097.27	2012.61	1760.55	449.98	705.42	2760.17	1362.55	2319.57	1041.14
2362.48	1531.41	865.36	1480.20	2310.96	3656.29	2647.91	1791.77	2521.49	1065.74	1001.46	3721.49	2167.01	3439.60	1158.17
2984.08	991.77	1066.82	1596.46	651.13	796.92	3805.46	2004.00	3341.02	901.50	517.96	3619.69	1088.50	519.95	632.68
2437.83	1474.36	1493.43	4973.32	617.30	689.89	3512.65	2044.75	2016.46	415.99	1089.12	5048.67	809.07	3186.77	1452.52
2102.12	1699.04	385.85	1889.89	179.16	589.31	2779.55	1618.30	3275.66	268.67	1219.84	2932.10	482.43	2360.48	3441.14
1790.24	1464.98	347.41	1219.38	1005.15	1662.13	3814.84	3103.58	4876.28	1604.15	1221.22	2153.79	1258.29	1564.78	1825.30
1885.12	1321.95	433.06	2097.81	2008.46	1728.87	1955.56	2240.98	4748.17	253.44	432.76	2648.37	415.99	662.05	1406.23
1752.10	1542.95	455.21	1966.01	718.49	2585.47	5328.26	2709.42	3014.07	716.49	1251.83	3067.59	411.38	529.03	887.66
2718.19	2256.06	1284.43	2753.71	2487.04	2999.92	2517.49	2614.69	2963.78	2974.55	1645.98	2489.35	235.14	526.72	529.80
2102.12	1404.84	1081.28	1537.87	873.97	439.37	3750.56	2811.84	1561.25	941.79	517.34	2602.54	549.33	573.32	2555.02
353.10	2290.97	578.85	1837.91	1255.98	703.73	5760.40	2697.58	1976.47	1286.43	868.44	2738.18	625.61	1678.12	2542.71
2334.79	1354.10	2172.24	2077.20	3096.35	1327.18	2570.86	2628.07	1848.21	1917.11	991.00	2608.23	207.77	905.34	745.71
2483.05	1413.30	1364.71	3897.27	752.33	2363.86	2841.37	2455.67	3822.84	879.51	1108.50	2886.43	98.58	1343.48	1400.69
2061.21	482.28	255.44	1005.92	2413.38	422.61	3765.78	993.16	2671.59	1479.89	1967.55	3221.99	468.13	1236.29	1013.46
1951.10	2356.32	471.51	1046.37	3653.83	3482.05	6728.18	255.44	3671.82	2688.04	627.30	1105.11	288.81	607.61	210.38

2086.74	2943.64	1128.80	2070.59	725.72	1955.25	5706.11	1072.66	2170.70	989.62	629.14	2836.45	243.75	825.68
3432.53	2575.16	849.67	2292.96	990.85	2503.19	3864.36	408.00	2246.52	1535.72	821.68	2876.74	385.39	597.77
2446.91	1436.52	650.37	1857.29	827.07	2893.50	3038.99	2325.57	5722.72	411.84	1201.54	2807.38	852.44	433.22
2203.31	2336.49	3575.39	1394.23	1082.05	3276.43	2362.48	1134.18	3507.42	277.43	772.63	3096.50	500.12	669.13
2628.07	1258.13	4972.55	1308.73	2471.36	2544.41	2458.90	252.06	3173.24	290.97	694.66	3000.23	299.12	1242.60
2659.29	2200.08	732.03	1709.65	981.62	1857.13	2676.66	1022.07	1904.50	286.20	753.25	2677.89	409.54	719.72
2108.27	3674.43	4334.03	1138.02	2554.71	329.57	6027.07	455.98	4503.50	379.70	1985.85	2757.40	401.08	1719.49
2261.28	1906.50	1681.97	1793.62	4299.12	2983.31	6419.53	825.53	1232.30	832.45	3193.39	3124.03	665.59	395.69

MSC group

2847.98	682.20	5280.43	3284.89	4064.74	1302.73	5811.77	509.19	1802.38	5200.15	1078.97	900.58	6080.28	4068.59	3530.33
4396.46	326.80	2583.93	3144.33	2616.07	2158.71	4828.45	931.49	1653.06	2168.09	306.50	1783.78	880.28	6063.05	2369.09
1122.34	408.77	3250.44	2229.91	3884.66	2342.95	3207.69	426.76	1857.90	8827.84	1856.67	7871.43	1432.68	2035.53	3572.78
2040.45	453.52	2604.08	1809.15	2063.67	1567.86	4233.45	1059.13	2164.55	6194.69	3902.04	1122.03	2296.04	4846.29	5803.46
2766.01	909.04	4876.74	3986.16	2652.98	1110.96	8235.91	2033.83	1396.23	8479.20	1148.94	2462.44	3517.26	4132.87	3781.31
3299.35	6247.60	3989.85	1494.20	3119.11	1676.74	1685.51	2057.98	2203.15	3248.60	1156.17	409.69	3807.61	5080.35	6095.19
2529.64	2217.92	1506.04	2887.04	2889.66	738.64	2865.98	1673.66	1640.45	3562.48	1627.68	569.32	3845.44	2356.94	3005.92
2835.53	472.28	5391.93	2807.23	2767.09	883.97	4449.37	2569.01	1485.74	2751.71	865.67	1221.84	3430.83	5291.35	5066.97
3298.42	4668.05	3633.68	929.03	6019.22	2994.23	4871.05	2646.52	1317.03	2456.75	1220.15	2832.14	1129.41	3368.09	3137.72
3616.61	1630.76	1893.89	3066.51	3567.40	2188.70	4826.61	1362.09	2565.48	1223.68	1437.14	1362.71	4186.08	3619.69	4021.68
3254.13	2253.29	3415.61	1126.34	4291.89	3915.88	4440.29	369.55	1533.26	5203.23	2492.12	1592.00	4480.43	3277.36	3570.63
2375.55	3913.73	1605.08	765.71	2837.52	1372.70	2357.71	2773.86	1352.86	7126.95	1951.40	2090.43	5076.51	3080.35	2098.89
1796.54	3827.61	4081.97	812.30	3775.93	1477.74	3740.87	1610.46	1653.67	1625.84	2030.30	1122.18	637.60	5414.99	4277.28
2935.03	1771.78	3110.65	1372.70	4101.50	2424.76	4381.55	2451.21	1007.92	6858.44	2756.79	1776.86	5482.20	6696.96	4315.88
3700.58	3844.21	5607.38	724.18	3936.64	3390.85	1691.50	1141.41	1510.34	2811.07	885.51	1254.75	5070.82	4233.60	5239.06
4273.28	4409.38	1988.31	1694.12	4431.83	658.82	1933.87	721.57	1409.77	3458.82	2360.78	2324.03	5506.96	4278.35	1623.38
3078.35	3039.14	3264.74	1327.64	2898.73	1793.93	2158.86	773.86	1685.35	2426.76	3180.47	1030.83	3515.88	4074.59	3311.96
2899.35	6302.04	1968.63	2681.28	1671.05	642.06	4302.81	730.95	912.11	1570.78	2469.97	873.51	802.92	2408.77	2984.39
4299.42	2397.08	4157.17	987.16	3616.92	208.23	1902.35	1516.80	2326.80	422.30	1512.34	822.91	309.73	7589.70	4168.24
2159.17	2678.20	2840.45	1592.46	395.69	246.98	7891.73	897.19	3079.89	410.15	2567.78	820.15	333.56	4176.09	3660.44
4192.85	3685.04	3236.91	1472.36	597.31	1747.48	2880.58	2251.13	1163.86	963.17	2704.65	576.09	1848.06	1656.59	3633.83
3579.09	4912.42	1842.68	967.63	1167.71	1480.66	3029.30	1396.54	2073.97	1603.69	1214.92	787.70	6015.07	5049.14	3299.19
2227.14	6184.24	3600.31	1206.92	1004.54	3535.56	6292.66	1981.08	2603.46	3609.69	2095.96	2478.12	1518.95	2844.29	3663.36
2460.59	3598.46	5091.73	1610.61	837.06	2447.83	3063.90	1667.97	1599.69	2428.91	1814.69	1046.06	6472.74	4573.63	2858.13
3127.87	3466.67	2916.72	2402.31	1562.17	521.65	3682.43	1450.37	1214.46	1449.75	2320.95	3141.56	2614.69	1522.18	1146.79
3839.14	776.62	1655.06	2188.24	1503.73	2536.10	414.30	1373.32	1051.29	1019.15	2248.37	4343.56	1848.21	6822.30	2828.91
619.76	1926.64	3742.10	2798.92	1189.08	671.13	1251.67	1345.64	3986.62	1765.94	1315.19	1783.47	2014.15	2247.75	4101.81
2786.01	3477.12	2626.22	1860.52	867.36	471.97	451.21	1644.91	2704.65	1424.38	1200.62	2300.04	3735.95	2720.03	2899.96
1696.73	4116.42	4088.89	3379.16	1664.59	2368.32	320.49	1759.02	2382.93	1451.90	1856.06	2941.79	2114.11	3346.25	3194.77
3419.45	4401.08	4160.86	2746.94	584.08	4621.92	722.03	1852.67	1761.32	1365.47	949.02	2587.01	2312.65	3163.40	3678.74

2585.47	1514.03	3352.56	1921.57	156.71	352.02	1568.17	1278.28	1684.28	1744.10	1178.16	370.01	5611.38	7586.31	3591.08
4142.41	4536.10	3454.06	2819.69	2029.07	3972.32	240.37	1996.62	2277.43	2207.46	1022.07	2152.86	3961.09	5897.89	4415.38
2384.78	8949.94	1543.41	2351.25	513.03	893.20	2878.12	1319.49	2075.51	2585.77	2164.40	1995.85	1964.48	2348.64	3288.89
2314.96	4425.84	3960.48	1263.98	406.46	2171.47	1388.39	1804.69	1010.84	1633.99	1633.53	2205.61	2394.93	5414.84	4901.65
3910.50	4126.72	5203.54	3057.75	818.45	3157.86	1309.80	924.88	1893.73	1618.76	2007.54	2463.05	1528.18	3188.77	4544.41
2695.58	4664.05	1893.12	1838.52	590.85	3670.13	265.44	2140.10	1807.77	951.63	3534.64	577.16	1179.55	1221.84	4560.40
2338.33	1843.60	2101.19	2551.48	142.25	2948.10	1413.00	2245.29	1250.75	1145.71	1393.46	1936.33	1888.97	2223.61	3762.40
4375.24	3011.92	4633.30	1706.27	723.26	1978.01	162.86	2683.74	1224.30	394.62	2489.66	2844.91	2401.85	1830.22	4420.92
6772.17	2361.55	1919.11	758.02	845.52	5622.45	320.34	3249.21	2711.27	1105.73	2701.11	665.13	2361.71	1198.62	4123.95
2838.29	4319.11	5006.23	1272.90	1082.81	2129.95	227.14	1589.54	1394.69	1052.67	4333.87	1247.37	1682.74	2375.39	4345.41
4895.96	3541.41	3250.14	2474.13	2605.61	5127.72	684.81	1975.86	1691.35	390.47	3591.08	1085.74	1688.27	2635.91	2737.25
1124.49	1272.74	3672.43	1273.05	1127.41	797.85	134.87	1708.11	1321.18	3393.00	3042.37	3653.98	2125.34	1432.07	2975.78
4017.07	2337.26	2722.34	2765.09	1312.27	82.12	1679.66	2571.32	2210.84	1471.90	4594.85	172.70	2838.91	2092.12	4311.11
2633.91	4053.67	2651.75	2783.85	1166.94	2075.05	854.13	2428.76	2235.60	4083.81	1639.22	103.35	1817.76	1357.17	1034.53
4045.68	4057.21	2456.75	2223.15	913.65	6344.48	1186.47	2455.67	2839.83	1620.30	5897.58	360.78	2465.51	1844.83	1270.90
2411.84	2051.37	2316.19	348.33	1050.83	3862.82	367.24	2879.66	2039.06	3565.09	4075.66	169.01	1797.16	1989.70	3327.64
3447.44	3985.85	1563.09	1085.28	1358.09	1049.14	962.55	962.55	1442.68	2702.96	6446.91	669.13	3752.56	3448.52	2012.76
2942.41	438.60	2455.98	121.80	1649.06	4533.18	1019.15	1509.42	2963.78	2376.62	7622.30	6415.07	3297.96	3950.02	2584.70
2050.75	449.37	2997.46	1327.03	1009.00	2222.07	3629.37	1255.36	2237.14	2849.67	5677.66	297.58	1761.02	4287.74	5428.84
3404.84	1489.58	2187.31	61.52	798.46	1560.63	680.05	1212.15	2157.79	904.11	6595.31	325.57	4093.66	3127.26	4959.94
2102.58	1813.92	2432.45	1375.47	1751.33	5720.57	2615.46	1418.84	3040.06	1984.93	7441.14	941.18	2829.07	3304.11	1680.74
1845.14	1977.39	2306.96	1374.39	2146.87	7761.78	4207.77	1515.88	2078.59	1290.43	3176.16	5195.54	3446.06	3731.03	5504.81
3182.01	3573.40	2454.90	1146.02	320.80	5741.48	6834.45	1080.05	3278.74	1639.52	3205.23	1197.23	1657.82	1991.08	1797.62
3659.67	3205.08	2952.71	1492.50	386.16	3935.26	1056.36	2043.21	2243.14	1311.96	3106.34	3131.10	1842.52	2437.22	2364.17
3909.88	2009.23	2107.96	3609.38	507.04	1586.01	1861.90	1732.26	1789.62	4820.45	4060.44	8538.56	4088.74	3817.92	3829.60
2890.58	1853.13	3162.02	2707.42	1080.20	2415.23	282.81	2086.28	1860.05	2144.10	4355.40	1009.00	3615.23	3923.72	3500.96
3192.00	3732.10	3317.96	2008.92	685.28	6213.61	1015.15	785.08	2175.63	2256.52	4361.71	273.28	3066.97	3637.37	4262.82
3298.27	2176.70	2642.06	2921.80	231.60	4642.22	440.14	1645.06	1593.23	2118.72	3181.55	1443.14	1995.69	2004.00	840.91
3667.51	4458.29	3272.59	324.03	3519.57	6989.00	533.95	1891.12	1904.04	1958.63	3823.76	2385.54	3039.91	5095.73	5194.16
2323.26	1896.04	2855.83	1211.84	1474.51	5744.87	707.11	1740.72	1954.02	3362.40	2348.94	10446.91	3454.83	2318.49	529.64
2311.42	2689.74	3490.04	1339.79	1291.04	10247.14	2562.09	2069.67	1820.22	2282.20	4165.32	5394.08	2297.89	2616.69	1056.52
3392.70	2182.39	2617.76	3444.06	1508.80	159.94	1428.37	985.93	2481.51	2541.79	2847.52	1401.46	4066.90	3209.84	1486.51
2494.58	2499.50	2441.22	1824.22	986.85	5722.57	1428.07	2780.32	2214.53	2264.51	1532.80	1194.16	2821.99	2933.18	5127.72

4134.26	2972.09	2833.53	1722.26	1012.53	2035.99	1233.06	1947.10	1509.27	3737.02	1109.42	11632.45	2568.24	4107.34	1056.98
2894.89	2247.60	1943.41	3089.58	1982.01	6664.98	1627.07	1713.50	1653.98	2929.80	634.22	4207.77	3364.09	3825.45	4893.96
4680.66	3695.66	2858.13	2358.63	1408.84	3165.40	3203.23	1756.40	1711.19	4215.61	3813.61	9974.47	2725.26	3049.14	3449.44
3096.19	2737.41	2734.33	1724.26	1515.73	4972.24	2225.30	1458.52	1510.50	472.74	630.37	5334.41	3945.25	3981.24	1741.79
7072.82	2811.38	1925.72	4118.72	4085.04	1633.06	2007.69	2154.10	1286.28	1595.08	297.12	349.71	2861.98	4047.37	1713.49
616.84	1975.55	3118.19	2500.27	1826.53	1769.47	2214.69	2836.14	949.33	2700.19	3799.00	319.88	2413.07	5318.26	1864.05
7494.81	2411.23	2422.30	326.18	1046.37	2394.00	850.75	2264.36	1491.12	1978.01	459.21	1992.31	3114.96	2437.06	1683.81
6785.08	2004.61	1446.98	1492.04	2118.72	3840.83	1905.11	2269.59	539.95	2460.13	2293.73	2277.43	2400.15	2691.43	877.51
7034.99	3468.36	1930.95	3548.33	3551.25	1504.50	1013.46	2015.99	2046.44	184.70	1733.49	8405.54	3439.29	3460.36	1134.18
5643.37	2388.93	2226.53	1658.75	2512.73	3106.65	1911.42	671.59	1358.09	2883.04	598.85	7028.37	4491.35	2641.60	212.07
4967.32	3567.71	3337.49	2555.02	1566.47	2353.86	249.14	2254.52	1911.27	2707.57	1637.99	214.84	1776.55	2350.02	603.00
7392.08	376.62	3376.86	571.47	1450.98	1058.06	1419.15	3825.61	1411.00	3276.28	5303.65	321.88	2143.18	5915.73	338.95
11066.97	2704.19	2212.23	2688.97	1996.92	3132.18	7576.16	2401.08	1816.38	2905.81	1378.70	196.08	2070.28	2950.25	7253.06
6120.88	2003.54	1710.11	3430.68	2598.08	5840.37	2367.09	2564.71	1899.73	3131.56	377.39	190.70	2418.61	2792.93	667.90
6037.52	3082.20	3382.08	1861.44	2176.86	3685.66	1892.66	1866.36	1792.85	2877.82	193.16	379.55	3161.55	2684.35	1759.63
3544.18	1648.75	1516.34	860.75	1914.34	3706.42	548.87	2217.15	1517.88	2718.34	277.89	159.94	3288.43	1351.33	667.74
4707.27	1209.38	1317.03	705.58	2613.92	10401.85	1179.09	1475.43	2763.09	1273.82	439.37	217.76	3209.23	6279.74	526.11
4730.33	1099.89	1355.79	999.77	2478.43	1846.37	5651.52	3173.24	2892.89	1730.41	3744.87	189.77	3891.89	1092.81	188.85
3852.52	3763.17	2227.91	1728.11	2425.07	3853.29	3712.27	1972.93	3587.70	1629.68	3175.70	273.13	1782.55	905.19	2731.56
8144.25	921.95	1634.45	2718.80	1085.43	5824.68	1383.01	2590.08	3087.58	1802.54	5454.83	1018.84	1985.85	1442.06	1289.20
4314.80	5130.18	3114.34	3387.47	1516.80	5311.65	1235.37	2173.47	2849.52	1026.22	2954.56	1563.86	4785.08	3265.05	194.69
5022.38	1636.45	1716.26	1447.14	1661.21	4245.29	3327.18	2033.37	3297.19	1139.87	3550.79	1058.98	2542.56	1104.50	4252.36
3857.13	2759.40	2877.36	1592.00	1931.72	4796.31	1034.53	4205.92	1986.01	2120.26	5569.09	715.57	2211.92	2357.25	1318.42
3955.56	4255.75	2004.31	591.47	1458.06	2519.49	482.12	2884.43	4701.73	2108.88	1672.59	2240.83	1286.74	2266.51	2912.73
4304.34	2717.11	2106.88	299.42	1336.72	4453.36	3666.28	2961.94	7588.47	1397.31	1164.94	996.39	6147.64	4512.11	2000.46
4524.26	4076.13	2656.21	292.66	3088.04	4937.49	1140.79	2309.27	2681.74	1882.20	3662.44	291.58	939.18	6759.25	1551.71
4336.03	2754.79	1280.74	389.70	1737.95	1011.77	3799.46	2703.73	157.32	1780.70	1548.48	898.89	1092.20	2665.90	3274.89
3073.90	3872.36	2025.22	1456.36	2839.06	2231.60	4095.81	2787.24	2259.59	2250.37	2557.32	5555.56	5548.33	2449.67	1303.81
3689.66	3274.89	1506.50	852.75	3974.16	3320.42	895.81	3746.87	921.65	2155.02	1068.97	4296.66	1472.51	4997.92	3165.24
4973.01	2136.41	1057.59	2226.68	2935.79	1466.21	732.80	2250.98	2875.20	1001.31	1370.40	4009.23	1893.43	8013.99	533.64
3094.66	2996.23	2230.83	2909.04	2488.43	2487.97	716.80	1788.85	2756.63	1428.68	768.32	3686.89	1350.40	341.71	3541.25
5062.05	1710.11	1473.90	4533.33	2781.55	1729.03	1633.22	3999.23	3366.24	2863.21	2314.19	4747.71	2861.82	3217.53	460.59
2881.51	2773.40	2657.59	5931.57	3086.81	3829.14	1945.71	1690.89	1271.82	1078.35	1473.28	4809.84	742.48	3960.63	1337.18

3312.42	4015.38	3348.10	2733.56	1525.11	3015.46	1110.04	2473.66	4097.19	1207.23	1227.99	4583.01	2844.14	5248.44	1839.29
2319.11	5489.27	1929.72	3771.32	117.65	2273.59	3276.13	2027.99	1910.03	1046.06	1082.81	815.23	3878.20	2420.45	7084.35
2815.53	2466.90	2252.52	1768.09	3109.11	1165.55	824.30	1945.56	5338.87	546.41	796.46	1876.20	1813.46	1623.38	1186.47
3326.87	3781.62	3264.13	3101.12	5003.46	3643.68	2101.96	2071.05	2420.76	2160.55	4992.54	781.55	3182.16	1580.32	486.12
3818.53	2458.13	2744.79	5162.17	2170.24	5074.97	1447.91	3381.01	4137.49	325.26	1898.35	974.09	565.48	3017.76	1049.90
2803.23	1960.94	3435.76	3446.67	2182.70	1165.71	4443.68	3334.41	1148.94	1033.91	1513.57	1062.51	3282.28	3351.79	3010.69
3544.33	2395.39	3177.70	4249.44	1927.26	8033.37	901.19	2518.72	588.70	969.78	1098.19	2620.99	3580.62	2832.91	2069.20
5152.63	2902.42	1610.77	3535.56	2394.16	3653.06	1188.47	1996.31	334.33	1530.18	299.58	1287.81	3987.54	4628.99	201.00
397.69	4527.64	2624.99	2878.43	107.19	1695.50	3650.14	2670.05	341.25	984.08	279.74	198.39	2328.95	3609.84	1100.65
1713.34	2591.77	1559.55	3876.05	1838.06	3594.46	8195.00	3458.98	370.78	440.91	309.27	875.97	5040.37	3868.67	1001.31
3387.47	3147.87	1405.61	7024.07	3428.68	1205.38	2985.47	2433.53	1449.90	170.24	5015.61	611.92	5532.80	3760.25	5655.52
317.26	2932.41	2258.67	3109.27	2437.83	3329.03	1558.48	1725.34	1199.85	587.00	3904.81	322.34	3678.74	7182.31	472.90
3564.94	4747.41	1945.10	2662.36	2622.22	3216.92	2630.37	2138.10	1526.49	1044.52	1133.41	4823.68	4762.48	7830.07	2250.21
9646.14	2361.71	1721.34	3826.68	2376.01	3206.46	426.14	2327.72	439.52	1220.30	1546.64	4209.92	5621.53	2258.52	2476.28
1353.48	5199.54	1835.91	4312.34	2361.55	7101.88	778.47	1932.33	294.04	1354.71	3124.03	1208.30	5683.51	2969.93	7263.82
922.11	3093.27	1575.24	3385.93	1934.03	7951.40	180.09	864.74	3167.86	1097.12	1124.18	4357.56	4766.01	6403.69	2072.13
341.87	2489.50	1985.08	4399.85	3013.15	1892.81	405.38	947.33	418.45	581.01	784.93	4259.29	6138.87	8749.25	4538.87
668.21	5483.43	1860.21	3225.68	2374.32	1608.92	985.31	781.85	1133.87	654.06	663.44	1150.79	2374.47	9338.56	522.57
9667.05	2742.79	1951.10	2869.20	1271.20	2680.51	377.70	317.11	7367.78	1268.59	1888.35	1904.19	7402.69	6466.44	3480.66
404.00	1663.36	2448.44	3852.83	2479.66	2885.97	365.24	1908.96	3097.89	1138.02	5591.85	404.00	2593.00	8870.43	1587.70
885.51	2627.14	1693.20	3796.85	2711.11	1116.65	659.75	1623.68	3170.32	825.53	9579.24	4928.41	6053.67	4662.36	3198.46
193.16	7170.47	1785.01	3829.60	194.23	1583.55	703.42	993.46	1706.42	694.66	3844.83	5697.81	2743.71	8725.41	2463.05
715.42	2414.76	1716.88	3528.64	3633.99	3302.42	1738.10	701.27	4008.30	1860.21	690.20	3847.29	5243.68	3810.69	2038.29
693.73	5483.74	1505.58	3991.23	4843.52	1362.71	1143.56	651.60	5074.97	1421.15	3673.05	4018.76	6072.90	4650.83	860.75
563.63	5420.68	1651.98	3993.08	1853.13	2847.98	517.49	1334.26	3545.56	773.09	4165.63	5212.92	5001.00	4608.07	598.39
378.01	1625.22	2527.80	3728.26	1708.73	4459.52	1571.55	1168.94	1290.12	965.94	1067.44	6721.11	1944.18	4981.16	
417.53	3709.50	2282.35	3629.53	2567.47	2511.80	3334.41	523.18	4390.00	869.20	747.56	5486.81	4008.77	4351.25	
471.05	2004.15	2366.63	2784.62	2344.94	1688.12	1181.24	1006.08	7621.99	1546.33	2698.35	2978.24	7614.30	3613.07	
138.10	3579.39	1953.10	3662.28	3108.80	1005.00	396.31	2724.95	1968.17	566.86	3590.77	3760.40	2521.34	3899.27	
197.92	3166.17	1998.62	3364.71	868.90	1793.31	2451.67	1380.39	323.11	567.63	1004.54	3870.67	4678.20	5665.67	
1352.86	3962.48	1338.26	2204.54	2485.20	4189.31	220.68	902.12	1464.51	2936.41	996.85	3786.39	4192.70	4873.82	
407.07	2999.00	1469.74	3852.21	1572.01	2397.54	2107.34	2074.28	4077.35	722.18	1859.44	4712.34	3445.14	3192.16	
739.87	4349.10	1890.35	3177.70	2538.10	4972.55	785.39	1735.18	7140.79	4168.86	471.82	2033.22	1595.39	3359.02	

PEG+MSC group

691.12	5483.28	5120.80	240.98	1928.64	3394.39	3785.16	4549.48	3104.81	288.81	3998.62	588.08	517.19	3069.74	660.98
890.58	2144.25	6299.12	303.58	2688.35	2454.13	2625.14	6574.86	3839.60	459.21	6106.27	3726.57	781.85	3100.19	2190.23
1059.90	2405.38	4146.25	815.69	3022.84	3089.27	3739.49	679.74	5357.02	214.38	5377.47	4092.43	399.69	1781.78	3312.42
654.67	5381.32	4500.42	692.50	3304.27	4675.43	5115.42	4555.17	2104.11	1369.01	4611.46	1725.18	459.52	3167.86	3180.47
2012.92	3456.82	6618.07	1186.16	3376.09	6797.54	3701.81	5593.54	2585.31	316.19	3990.00	1006.54	417.99	4039.06	4149.33
560.55	3514.96	4490.58	569.93	3278.89	1472.36	6740.64	702.35	2698.19	453.52	2209.00	1772.40	228.22	5123.57	3327.80
1181.55	6492.12	3433.91	263.28	2824.76	864.13	3816.23	2313.26	3871.59	426.45	1838.52	4696.96	182.39	3406.84	1816.84
2126.72	4063.67	4616.99	357.40	3457.44	3520.03	3576.78	8942.25	4312.80	303.11	4083.05	327.26	396.31	3577.70	1897.12
878.12	2818.30	3887.89	292.20	2318.49	1644.60	846.60	6188.24	2750.33	296.50	3078.97	548.40	354.94	3636.60	1150.17
581.01	5005.31	7607.38	593.93	4089.35	4275.28	3558.63	6757.55	6174.24	2624.53	3438.83	846.29	160.55	3216.92	4059.67
850.75	2958.86	6387.85	193.16	3325.80	5530.95	4456.13	5908.65	2066.59	214.23	6337.10	1945.41	465.36	4567.32	2402.00
1317.34	7099.27	7970.32	377.09	996.54	1783.93	2012.92	1679.20	1894.96	251.13	2046.29	1339.64	351.86	3342.25	3926.64
805.38	4471.67	6648.52	119.49	4157.32	2518.57	6261.59	1781.78	4116.72	441.21	6885.97	2257.44	1032.68	1226.61	4063.98
631.60	5005.15	7422.68	700.19	2865.21	1606.31	5338.56	244.37	4215.30	5621.53	5563.55	2456.90	646.83	4490.12	3752.86
613.61	4653.29	5378.24	197.31	2963.78	732.03	5748.40	364.63	168.24	614.69	4804.61	2524.26	1142.18	3931.41	1369.01
1503.42	390.62	10379.85	399.23	3743.79	1332.10	5622.91	13179.08	6364.63	6372.78	3977.55	401.08	1047.29	1530.03	2516.88
2640.98	8391.85	6637.45	293.27	3452.83	1435.91	2702.96	800.62	639.75	5073.89	2050.29	392.62	2763.24	4339.25	3493.43
430.45	3429.60	6551.79	176.55	3367.32	3669.51	2854.29	2245.91	4374.16	3028.37	5135.72	783.24	981.78	2075.20	3801.77
1395.46	2531.95	4903.96	1371.16	4109.19	2184.24	3867.90	14791.85	1515.88	1516.49	1900.19	564.09	1414.07	5042.06	2349.87
664.67	1875.13	6988.24	622.99	4263.59	485.35	1820.68	2267.44	3595.54	5409.92	2221.45	213.61	1453.44	4118.42	2481.81
976.24	4067.67	7408.23	784.93	3356.25	1235.06	5283.05	3307.96	4675.89	5011.00	3035.29	437.68	929.64	3409.92	2639.60
660.98	1499.42	9002.54	196.23	2789.70	3268.59	6740.33	951.33	3262.90	4908.42	5930.64	477.82	3124.18	1526.95	505.34
840.75	3879.28	7024.53	961.01	3840.68	3068.97	1914.03	433.99	4719.72	2479.82	2264.67	354.33	751.10	3502.65	2750.33
1221.68	4446.14	11622.30	3147.10	3316.57	693.27	6019.69	364.63	3593.39	3259.67	3403.61	377.55	1045.44	2796.77	4058.59
1081.43	5891.27	5896.35	782.31	2675.28	1962.78	3474.82	1581.85	5919.72	3821.76	5703.19	9680.28	1329.95	3850.52	3082.66
307.27	6256.98	8933.64	1328.57	4514.11	4233.60	3810.53	3917.11	3150.48	3636.45	4380.32	7711.19	341.25	3961.40	3769.78
1129.10	5565.86	7078.05	1143.25	3235.99	5270.90	5133.56	1281.51	7864.21	86.58	2704.81	5530.64	1800.08	2020.45	2490.43
3618.92	3622.15	7401.31	673.43	3407.61	3469.28	4071.51	7076.66	2940.87	4127.64	1534.33	5024.38	4030.14	3777.16	2299.88
1109.42	2244.68	7318.42	680.82	4275.43	1692.43	3734.87	4979.32	7772.70	2457.67	3194.93	3517.88	537.02	3410.84	2347.56
1670.74	5603.54	8392.00	459.82	3481.58	364.94	3802.38	1678.12	4652.06	2516.72	4764.94	5462.67	221.76	2704.34	2765.24

346.94	4603.00	6810.92	1418.53	3039.45	1529.26	6335.26	1748.71	4070.59	1765.78	4651.13	8356.32	1103.42	2620.38	362.32
2319.72	3287.20	7748.10	613.76	4437.68	628.53	4621.30	8740.33	152.56	216.53	1912.96	2756.63	3907.57	3476.51	1565.40
4574.24	196.85	6417.69	995.16	2955.63	525.80	6039.37	1622.30	418.61	3706.42	3339.49	3089.27	1269.82	2183.62	1602.61
2870.59	7938.49	35830.00	599.00	3394.54	2023.53	3895.27	4033.99	2199.92	3972.47	3036.68	7922.80	292.50	3728.72	1687.66
3275.36	3589.39	12959.00	621.45	5360.25	888.27	5000.38	8181.62	467.20	7115.73	4703.42	5843.60	950.25	2824.45	3245.83
5492.81	10929.95	19020.00	851.21	5509.88	1494.35	5707.96	2507.80	3374.39	10356.79	2657.90	8197.31	2770.63	2513.80	4505.50
684.51	5742.56	29819.00	1584.62	3535.87	1293.96	4371.24	937.02	1114.80	4097.19	5059.90	7141.10	1011.76	3987.39	3711.03
1460.67	3665.82	22778.00	212.53	3691.35	2193.46	5430.68	2757.71	3140.64	7954.17	2158.40	5111.42	805.07	2500.12	3156.48
3866.21	5603.23	18318.00	408.00	1896.04	3200.77	6164.25	1740.87	963.78	11678.59	2054.75	8077.82	639.91	1614.46	2651.44
2310.80	7466.97	41747.00	1048.21	3905.57	5781.78	5629.68	959.94	2543.64	7300.73	5072.97	6829.83	903.19	2192.70	3562.94
4294.96	6110.73	18694.00	414.15	4218.38	3309.96	5056.67	4277.89	2585.01	4916.88	2798.77	3565.40	1560.48	255.59	2022.30
526.11	4224.99	29093.00	286.20	6724.95	1210.77	5183.70	2732.64	449.21	8254.52	2383.85	8026.91	615.15	152.71	4376.01
2780.16	5580.78	24879.00	86.12	4002.00	4331.10	4718.80	2817.53	575.78	5812.69	3459.29	8375.55	341.25	605.61	2997.62
597.92	4786.31	31044.00	4787.24	3564.32	546.87	5596.62	7236.91	2099.65	8212.84	2635.60	4669.43	123.34	1908.80	5062.98
2414.46	6844.75	18483.00	1261.51	3603.54	459.36	3425.76	756.94	153.94	10059.52	4473.82	10544.56	648.37	2650.52	3687.35
2962.09	5008.23	41916.00	842.14	3417.15	3444.98	5027.91	1371.32	1440.98	5582.01	5042.52	3878.05	153.94	3861.44	2339.41
3592.93	5554.02	15105.00	1552.33	3095.89	2905.04	5337.33	3300.12	402.31	5297.96	2741.25	9863.28	505.81	3243.68	2941.33
5625.99	4913.19	42614.00	719.57	3588.00	394.77	3909.73	5315.96	8558.09	2206.84	5666.28	2906.57	101.50	2745.41	2908.42
235.76	3501.73	37775.00	309.42	4307.73	238.52	5069.44	1760.40	4320.34	4469.05	2738.95	1209.23	1088.97	2865.82	2125.80
2511.65	4818.30	27032.00	175.32	3763.63	146.25	4387.54	1288.89	5745.94	5408.23	3933.10	153.94	527.95	3898.35	2478.12
1926.49	3578.16	18606.00	161.17	1419.76	1031.60	5452.98	1154.63	5624.91	3594.62	1965.09	716.80	638.68	2901.35	2071.82
1116.49	3399.77	29491.00	350.48	3938.18	1428.37	4824.91	1063.13	8230.68	6765.71	6567.78	453.06	539.64	5008.69	2315.11
2874.74	4572.70	29928.00	274.36	3085.89	302.65	4152.40	3597.54	963.63	5092.35	2422.45	179.47	920.26	2791.85	2580.39
4786.31	3605.38	14249.00	221.61	4292.50	374.47	3847.29	1038.83	7658.29	2103.35	3207.38	482.28	1255.36	2814.46	2918.26
1730.41	6568.09	39596.00	354.94	3738.56	245.75	3820.84	2542.87	4278.82	2886.43	3049.44	3024.68	1012.53	1791.62	3519.42
4000.00	5669.36	37812.00	273.13	3279.97	158.25	6245.14	708.50	3549.87	199.62	3355.02	1675.51	3502.04	3446.06	1133.10
4581.47	5407.77	25358.00	420.61	2990.08	540.10	4806.92	7624.30	4073.05	334.33	4280.82	1144.33	126.26	2442.14	3246.44
298.96	6331.10	32508.00	431.53	2955.48	849.83	4521.03	4040.75	4894.89	736.33	1880.66	395.69	147.94	1194.00	2022.61
8724.49	4678.97	21282.00	303.88	3237.06	3808.07	6403.54	4224.53	6586.39	2950.56	2503.04	1145.41	1264.90	2158.25	2428.45
3149.40	4787.08	34926.00	315.88	2531.03	2625.91	4418.15	2342.64	5351.17	4920.57	3094.50	772.47	3639.52	2577.78	2592.39
715.73	6390.62	11986.00	5125.57	3658.90	1304.58	5455.90	2203.46	4703.42	1874.36	2157.48	1384.24	579.16	2400.31	3279.20
3065.90	5003.15	21974.00	1200.92	2805.84	1080.66	3656.13	602.69	5525.11	5238.29	3973.70	1755.32	646.37	1590.31	2702.04
2165.78	5302.12	18377.00	135.79	2717.26	550.10	2433.68	4366.32	8282.05	775.09	2274.82	561.78	529.64	2457.36	2558.71

4063.51	4275.89	5547.00	245.75	3421.45	681.28	4038.29	3277.35	925.80	982.24	308.50	606.54	1084.35	2151.94	2042.75
3859.13	3189.39	33462.00	892.12	2922.11	2280.51	3536.64	3598.92	904.73	971.32	198.08	1300.12	1172.32	3423.30	3458.36
1968.78	2532.72	27739.00	237.29	3204.46	1303.35	5514.65	2947.48	374.16	1110.04	843.52	1477.28	1235.22	1206.00	2520.11
623.30	5922.49	39339.00	855.98	2327.26	3863.90	5517.57	2839.83	216.38	1357.02	1112.19	440.14	717.26	1707.19	2892.58
1745.33	5041.45	24328.00	499.04	774.93	1676.13	4896.42	3048.83	1931.26	1082.66	245.75	1623.38	924.57	2223.91	2831.68
2887.04	4810.77	39445.00	451.52	1814.69	1775.63	2456.75	1622.15	5934.18	1085.12	808.00	225.30	277.89	1019.45	1825.61
3874.05	3504.96	29379.00	588.24	2651.29	443.52	16361.09	2112.26	4059.05	6934.56	181.16	4304.34	263.44	2563.32	3987.24
1120.95	3522.34	19630.00	307.27	2672.66	214.84	8825.68	3947.25	3269.51	1990.77	306.81	4735.41	345.10	3374.55	3075.89
2180.70	3481.58	33929.00	341.87	3332.87	560.55	10699.58	197.46	4606.38	7481.58	192.85	187.00	385.70	1962.63	3541.56
422.15	4505.04	26874.00	610.69	2734.03	811.69	17676.59	3892.50	5379.16	5087.43	1649.06	2002.46	512.42	3257.21	3147.56
478.74	3845.29	19380.00	628.07	1773.01	611.30	9959.86	3210.15	3250.75	874.59	2072.28	3305.65	260.21	1777.62	3004.54
444.44	2044.29	32359.00	780.62	782.16	745.25	11242.29	3287.81	2419.38	5742.10	694.50	3036.83	129.03	4123.18	2664.36
2750.79	5296.12	17207.00	2645.14	3142.48	1435.91	7201.69	4883.81	2275.28	5007.00	2699.73	214.07	216.69	892.12	1747.94
4576.55	3204.00	20167.00	3011.00	3120.03	605.00	8806.46	2734.03	914.42	5529.10	2453.36	92.27	168.55	3420.53	2244.83
862.75	4360.02	31519.00	3312.42	2127.64	855.52	15678.89	1420.22	4412.30	5427.76	3873.13	125.18	278.51	2763.09	3095.73
3075.74	4952.86	25387.00	3893.12	3329.80	166.09	10629.76	3410.53	3038.37	4909.19	5839.29	37.52	2341.56	1495.89	2320.80
1926.64	3336.72	23157.00	3574.01	2252.36	829.84	6834.29	4004.00	217.92	7558.94	685.89	327.26	4538.72	3475.89	3248.44
467.82	4304.81	30961.00	4084.89	2572.86	370.47	2428.30	1882.20	4151.63	5038.06	4745.25	564.09	2794.77	4191.00	3726.72
2532.72	7268.59	15853.00	3770.70	1778.70	354.94	13205.69	2796.16	5421.61	8418.61	2593.77	405.84	4073.97	1351.33	2684.66
1764.25	7181.55	36941.00	3235.99	1916.65	943.18	13989.85	4385.54	5504.19	4246.67	6695.42	327.41	3845.75	1320.72	1794.54
809.38	6012.30	20001.00	2612.07	4113.19	184.24	4356.79	2826.45	3187.70	6050.60	2945.48	2049.06	1072.66	3933.72	4141.02
911.96	5129.72	19734.00	3009.00	2896.73	281.12	8752.48	1072.05	1279.05	9924.64	2440.45	330.95	2992.85	2630.99	1636.29
1922.18	5592.00	5365.78	1230.60	1681.05	276.20	2541.33	618.84	4088.27	3340.41	2213.92	1024.84	3140.18	3136.33	3278.28
3286.12	6967.01	1123.11	3372.70	4007.54	529.80	8054.44	2624.22	1273.66	6955.17	370.32	967.94	2880.28	4579.01	4538.41
2298.19	6837.83	1796.23	3685.35	1435.91	385.39	3725.34	1575.24	2313.26	7584.01	589.47	528.57	3205.69	1244.91	
2682.81	5575.86	1092.81	3054.06	3282.12	6288.20	3136.49	1374.39	2895.50	9416.07	920.42	538.41	3162.48	3411.76	
2515.03	4294.19	4431.99	2537.02	2504.73	7792.85	3567.70	1914.96	1963.86	5802.08	200.38	189.16	3294.73	2587.62	
2598.69	8307.27	4829.53	3010.07	3284.89	4104.58	5928.03	376.01	1663.21	3242.14	373.70	148.25	3680.28	2185.47	
852.29	4260.98	599.62	3917.72	2213.76	4472.59	3162.01	2634.22	4957.17	2961.17	349.10	304.96	3342.10	3353.33	
687.74	5748.10	596.39	3949.56	2906.27	6512.11	4538.41	3754.71	3644.14	7755.02	339.56	262.36	1344.10	2220.99	
485.35	4035.68	375.55	3807.46	2805.23	8197.46	3346.87	1398.23	4612.38	4245.91	1931.10	291.58	2778.78	2216.53	
1576.93	2015.53	557.48	3570.17	4141.64	6348.02	3742.87	3001.77	880.58	3845.91	3629.83	134.41	3224.45	3529.87	
6235.14	6784.78	218.69	5166.32	3118.80	4487.35	4232.37	2893.35	6641.14	1591.54	495.19	511.19	2608.54	618.53	

3771.01	4314.65	487.66	3349.02	2981.78	411.53	6163.94	4686.35	4261.75	1395.00	1910.03	675.12	2543.64	3652.60
2914.73	6257.59	645.75	3156.32	3160.02	4593.93	4513.03	2382.62	518.11	3523.11	2654.98	766.01	2633.45	2243.60
2541.33	2270.20	257.29	3108.80	3792.70	6139.18	6877.97	1900.96	4584.70	1390.54	4567.94	273.28	1864.21	1542.18
2500.73	4178.85	4901.65	3538.79	3787.00	5474.20	7570.93	2476.28	2540.72	2192.39	6239.29	221.15	3763.63	1419.45
4027.84	7029.60	233.29	3864.36	2021.53	3971.24	7126.49	1251.67	1804.84	1241.83	3269.36	526.72	3120.80	4310.19
4990.54	4690.97	195.62	4328.34	3653.21	6214.38	937.64	1135.87	1100.50	4549.33	1687.81	1710.42	3298.27	2535.79
2124.72	4845.67	277.59	3094.19	1685.35	2446.91	1532.80	3931.56	4875.97	5825.61	5654.59	111.34	2646.06	3164.63
5929.41	5203.69	251.13	2614.53	3256.29	6915.34	3039.14	1575.86	1557.71	7226.14	982.24	354.79	2864.44	2494.27
2987.47	4479.05	524.26	3600.00	2770.93	4907.96	2138.10	3270.59	835.37	4126.57	3261.82	333.10	2613.92	3693.96

SAL

Bin	*Frequency*	% Myofibers
500	302	18.28
1000	314	19.01
1500	245	14.83
2000	235	14.23
2500	188	11.38
3000	135	8.17
3500	81	4.90
4000	54	3.27
4500	29	1.76
5000	15	0.91
5500	10	0.61
6000	15	0.91
6500	4	0.24
7000	3	0.18
More	22	1.33
	1652.00	

PEG

Bin	*Frequency*	% Myofibers
500	165	10.84
1000	299	19.65
1500	224	14.72
2000	188	12.35
2500	209	13.73
3000	153	10.05
3500	114	7.49
4000	64	4.20
4500	30	1.97
5000	29	1.91
5500	10	0.66
6000	9	0.59
6500	10	0.66
7000	4	0.26
More	14	0.92
	1522.00	

MSC		
Bin	*Frequency*	% Myofibers
500	129	6.69
1000	160	8.30
1500	244	12.66
2000	287	14.89
2500	254	13.18
3000	201	10.43
3500	167	8.67
4000	157	8.15
4500	104	5.40
5000	57	2.96
5500	50	2.59
6000	30	1.56
6500	24	1.25
7000	11	0.57
More	52	2.70
	1927.00	

PEG+MSC		
Bin	*Frequency*	% Myofibers
500	187	12.01
1000	157	10.08
1500	104	6.68
2000	99	6.36
2500	105	6.74
3000	142	9.12
3500	156	10.02
4000	132	8.48
4500	97	6.23
5000	71	4.56
5500	62	3.98
6000	50	3.21
6500	31	1.99
7000	30	1.93
More	134	8.61
	1557.00	

Middle region of ECM

SAL group

284.05	1257.52	1544.483	2167.32	2299.116	351.865	396.00	204.537	313.725	715.11	633.602	891.811	1817.76	473.203	473.972
171.17	748.94	828.451	2151.942	365.859	280.354	620.84	177.624	123.491	364.168	1687.197	1156.632	1199.39	620.069	998.539
141.64	1005.77	1846.059	375.24	332.641	292.195	873.97	1064.36	85.659	676.509	304.806	794.771	2564.40	159.785	966.705
435.06	998.08	1991.08	2408.766	899.346	867.205	916.26	485.813	98.731	381.853	177.778	2559.016	1259.82	180.854	623.606
282.66	784.62	1100.038	4400.154	1057.901	584.544	1318.72	1647.366	2120.723	259.439	258.977	2004.921	1195.08	212.841	402.153
896.12	918.72	1491.888	363.091	464.283	562.092	1694.58	793.233	563.322	93.502	112.111	275.894	1197.69	3348.866	1082.353
475.66	2936.72	455.21	1448.674	413.687	2612.687	1355.79	76.432	519.8	407.074	422.299	1200	1939.41	906.728	400.461
150.87	2354.94	422.299	1105.113	431.988	1501.576	822.61	1539.869	207.92	1632.757	590.696	972.241	1452.83	1195.233	759.862
152.56	1192.77	707.42	427.528	642.983	1698.885	506.88	2485.506	1293.195	383.237	396.463	789.389	1092.96	2003.998	978.239
474.59	2425.38	1449.289	1445.598	814.61	2051.365	1448.06	561.169	2034.91	181.776	1213.687	2269.28	1150.17	957.017	423.222
629.60	1673.20	454.133	254.364	599.154	765.859	1411.15	129.642	879.815	916.571	1295.348	2738.33	774.32	618.224	617.916
233.91	945.79	673.126	125.336	579.316	468.743	1662.90	2103.499	810.611	101.499	253.749	1119.11	485.51	467.82	742.945
199.00	1527.26	1369.012	140.408	760.015	6524.875	1294.12	395.079	5580.469	927.182	478.739	2140.87	752.79	804.46	586.39
229.45	1796.08	754.325	244.06	891.042	726.49	571.93	1612.611	1529.873	1180.777	993.618	1884.20	986.24	1688.735	1019.146
264.36	1600.31	670.204	256.671	674.202	2313.879	394.93	222.684	2123.183	3271.665	1099.731	921.95	1755.33	887.351	535.948
283.43	2084.43	542.868	233.91	704.344	5141.253	426.76	1157.093	2314.494	1951.096	1232.91	1546.64	1089.89	872.126	620.992
201.62	1635.83	315.263	211.765	436.755	1286.736	604.38	163.476	2005.075	1503.883	389.389	2336.49	2039.83	721.415	918.108
33.22	1794.69	1024.375	1965.552	569.012	1802.076	382.01	243.906	1165.09	759.708	1642.445	1271.05	1461.75	503.96	1119.108
88.43	2190.85	2701.423	1672.28	620.223	1883.583	625.45	3095.732	405.075	357.247	1801.461	3151.56	2313.88	1191.388	739.869
417.22	2812.30	1352.403	971.011	522.414	815.84	251.44	312.495	348.481	415.071	812.149	2800.15	498.89	505.19	413.533
207.15	2782.16	3086.813	306.498	926.567	2923.952	288.81	650.98	3121.261	188.85	1190.927	1876.97	837.985	594.387	1020.992
627.30	2274.05	1335.64	451.519	787.697	442.753	424.61	308.189	1854.056	71.972	525.952	1746.25	519.185	925.952	954.556
469.51	1067.28	329.566	204.229	221.146	968.397	446.60	994.848	1142.33	87.659	538.101	998.54	441.83	1259.516	363.706
107.04	2665.28	235.602	197.309	485.506	608.997	508.88	270.973	1511.572	1343.022	333.256	1746.56	167.628	369.089	776.932
237.76	2260.67	393.08	695.732	222.684	5394.387	394.00	303.268	524.567	722.338	858.747	1401.00	281.738	244.983	1310.727
382.93	3153.56	646.367	491.657	251.442	942.407	264.05	4234.218	232.372	291.58	572.857	1728.57	323.106	477.816	876.432
753.25	1943.56	586.851	1086.351	1118.647	3359.477	1717.03	2419.685	214.533	160.554	439.985	3451.44	272.972	528.412	877.355
562.25	2053.67	1689.35	370.627	1387.005	1518.032	637.14	3363.168	1213.072	307.728	366.628	481.20	533.795	333.564	487.197

217.46	1584.78	580.546	121.953	359.862	934.41	1197.54	1131.257	425.375	436.601	767.09	3193.08	414.764	1114.187	558.862
228.07	1530.33	785.852	189.466	695.886	1190.619	972.55	2417.224	707.728	1616.455	1185.083	3346.87	522.876	290.965	330.027
529.80	2274.66	1211.226	666.359	853.979	840.446	1755.63	2347.712	250.058	182.391	1102.038	2755.86	800.308	384.16	1949.404
131.33	1937.56	1832.218	506.882	147.482	1166.013	1837.45	2475.356	281.738	658.977	1145.098	3354.56	748.328	296.348	676.663
159.17	599.31	3956.171	1174.779	1877.893	794.156	2696.04	2599.154	720.8	1757.324	310.957	2001.54	1516.032	521.184	291.58
318.95	1002.08	3274.587	608.381	1531.411	3628.912	600.85	429.066	1136.332	687.582	1133.564	1650.14	973.01	176.24	402.614
166.71	933.18	1757.632	416.917	572.703	3006.844	2089.50	182.853	454.748	472.895	941.023	2930.87	836.909	666.205	521.492
228.37	3533.41	1064.821	1912.034	751.403	9232.91	2151.79	183.007	131.795	468.435	745.406	2498.73	1327.028	303.576	499.193
848.44	890.89	1352.864	657.286	522.876	1952.172	1206.00	288.197	257.132	133.333	469.204	3519.42	393.387	390.158	477.816
782.93	1429.45	401.077	1779.469	540.408	5385.775	1122.95	753.556	230.527	117.801	460.131	1513.57	419.531	220.069	646.521
241.45	1370.40	1811.303	193.156	384.314	1011.611	1054.06	483.353	476.74	1586.467	518.108	1409.30	485.659	354.171	354.479
172.86	1534.49	866.436	363.399	394.617	1024.529	1867.13	632.218	644.368	114.879	709.881	2652.83	726.797	747.097	518.262
478.59	1908.80	4925.336	1069.896	304.498	5284.583	944.87	622.222	653.749	117.647	1135.717	1263.82	682.507	542.714	432.141
163.78	2454.13	4047.52	523.491	272.818	604.998	1408.69	519.339	173.164	197.001	2056.44	2225.61	407.074	371.088	610.227
351.10	3058.98	3896.501	739.408	1016.225	2724.644	2902.88	364.629	1148.481	111.957	894.118	2986.85	1153.095	250.673	1954.171
128.41	2959.02	911.342	880.738	370.78	1096.655	707.42	1059.285	614.533	129.489	1843.291	2605.77	887.505	373.549	1338.87
310.50	3633.06	532.103	1446.828	490.273	1488.812	2010.15	168.243	541.33	313.879	1069.127	1435.45	949.481	206.69	1058.055
1136.03	2719.57	315.571	352.172	220.992	1903.114	890.12	197.77	1566.782	450.135	1577.855	2034.45	639.139	758.016	2693.426
1137.56	1787.62	1650.135	835.063	202.999	1112.188	1048.98	734.025	288.812	275.279	1573.702	2488.74	287.274	236.217	2890.734
1918.34	1722.72	945.483	967.32	171.626	1023.453	1273.20	679.739	165.321	723.106	652.826	1179.70	818.916	860.592	2223.914
1452.98	2714.03	648.212	1153.095	242.061	803.076	613.61	111.034	2187.005	1203.691	756.786	2759.25	184.544	1421.3	962.553
809.38	1203.54	1203.076	913.649	301.115	776.624	360.02	820.454	2898.885	736.64	303.883	2348.48	386.928	998.385	1097.116
536.26	3284.74	272.511	1019.3	235.909	1259.362	2014.46	195.156	285.429	221.3	1733.18	3254.29	1264.129	1100.807	704.191
97.81	1379.777	2017.224	615.917	347.405	813.072	1351.63	182.853	2541.945	454.902	654.825	1092.20	2516.724	906.728	1048.674
90.27	1363.629	517.955	574.394	519.954	282.51	1937.56	823.683	1768.089	301.269	898.116	2426.76	889.043	441.215	261.438
366.63	1928.181	631.142	556.094	107.805	414.15	1271.51	159.477	614.225	866.282	1759.785	5116.49	1083.276	397.539	599.308
57.67	2079.969	1834.064	682.199	217.762	177.32	2401.69	390.311	829.835	703.883	545.329	881.05	305.421	373.702	712.495
253.60	1019.915	982.238	1769.627	1352.403	272.97	2630.99	200.384	910.265	516.109	814.917	1621.22	1484.814	490.734	219.454
768.32	1629.988	2181.93	1472.511	148.251	654.21	3077.43	983.007	1599.077	747.559	452.595	868.44	1914.033	104.729	286.505
138.87	1022.068	2731.719	834.602	164.86	251.90	1751.17	368.935	419.531	722.799	55.825	1286.43	1768.089	191.772	597.155
311.57	650.211	1199.539	286.813	165.013	356.32	1817.30	312.188	4069.358	130.411	91.196	939.79	690.196	580.085	445.829
229.45	1662.745	885.813	1634.141	142.868	524.26	1165.40	360.015	177.47	248.981	173.318	964.09	495.809	435.217	583.929
555.33	1329.027	439.216	827.682	211.457	1374.70	1894.35	324.644	1499.885	1032.68	1045.598	728.34	477.97	1624.298	631.449

1093.89	1234.91	374.01	1240.907	362.015	612.38	2000.00	445.213	610.073	1088.351	371.242	372.78	367.09	798.923	756.324
946.56	1637.832	281.123	495.04	172.703	327.26	2570.09	1952.634	3401.615	460.9	602.845	347.87	357.709	1321.03	1184.775
112.42	960.246	338.793	705.575	418.301	116.72	2012.46	108.727	1673.356	1960.323	1482.661	518.42	358.478	2689.427	392.311
3032.83	1664.591	929.796	668.358	789.081	348.33	1969.40	545.329	1483.737	1409.919	702.499	925.49	196.694	1071.588	404.46
338.64	1938.178	276.201	595.156	665.744	421.99	1812.07	166.244	1906.805	653.133	382.622	609.61	176.086	2364.475	818.454
765.40	1291.042	1653.057	2597.463	833.526	328.95	1440.37	332.949	5117.109	1123.106	1404.229	361.25	118.262	501.038	1163.86
1980.78	1306.113	1554.171	506.113	764.629	581.62	1503.42	693.579	4230.988	1249.212	288.504	819.99	139.792	245.905	1859.9
2086.12	3395.925	967.474	1332.411	865.513	1147.56	1753.79	714.802	2598.539	900.73	379.546	478.12	481.968	2033.833	783.083
814.46	1629.373	3773.779	243.599	633.91	1766.09	1700.27	488.735	1603.383	658.208	953.172	1185.70	1257.055	394.156	1022.376
1825.76	2352.018	1050.365	610.688	375.855	640.68	2140.25	735.717	1203.998	301.423	96.578	398.00	1096.194	888.428	1799.154
1848.83	1679.047	2746.021	455.517	984.083	1356.25	2438.45	1174.625	4018.916	402.307	694.81	1873.43	1783.775	964.398	1144.483
1414.99	973.626	778.777	1608.612	782.314	374.63	2985.16	762.937	3215.225	197.463	584.544	356.63	2203.46	958.247	1914.648
1494.35	3360.707	745.559	586.544	1008.843	570.24	2984.70	597.001	6311.111	435.217	455.825	833.99	2135.179	1926.49	966.09
2600.85	2263.591	1092.042	820.454	662.207	383.85	1152.02	747.712	4337.255	545.329	550.865	2574.24	1242.599	2960.246	1542.33
2028.45	1361.476	1251.519	231.296	649.596	1165.55	1238.91	761.861	2036.294	512.111	370.012	927.64	1294.271	675.894	2134.256
2124.11	1408.228	2208.228	1578.162	325.106	633.76	1681.51	3084.506	4643.906	339.869	548.558	1409.00	917.186	2534.256	478.739
2167.17	2411.688	806.305	844.598	323.875	459.36	1300.27	108.727	881.661	584.237	429.22	768.17	1079.892	1330.258	518.416
1558.79	3336.101	1720.877	901.807	2636.524	458.29	2866.13	141.484	2407.843	194.541	197.924	717.72	844.137	1287.966	461.361
472.90	526.72	354.787	1563.706	1909.419	449.21	2349.71	475.971	3813.61	133.026	1212.764	1259.05	2184.698	389.081	2016.609
1705.19	1412.226	1245.213	961.323	668.051	146.41	1718.11	778.624	920.723	247.597	1307.651	644.21	616.378	155.017	1627.682
1261.98	3133.872	453.672	1160.323	694.81	302.50	2568.09	668.205	2462.284	459.516	445.367	2321.88	1827.912	1794.694	1825.298
928.87	345.867	1310.419	1126.336	1501.73	790.00	665.129	533.18	1740.1	1620.3	193.464	672.36	1721.953	2475.971	1011.15
1039.29	473.664	306.959	666.513	913.033	1016.07	162.553	479.047	912.111	213.918	454.441	359.55	2119.8	2144.56	2674.664
1061.59	364.937	289.889	521.184	521.953	596.23	55.825	86.582	604.998	775.702	121.03	310.34	2279.123	2844.444	2713.572
1179.85	657.286	447.059	335.563	974.087	836.60	1315.955	275.433	2188.543	365.398	1410.381	2205.00	2587.774	608.689	817.07
442.45	2253.749	156.555	203.306	421.684	902.12	1343.637	1334.871	2973.01	296.963	359.862	1886.51	3080.815	471.357	794.31
687.89	383.237	3612.611	199.769	367.859	135.18	131.949	698.962	1869.742	1742.099	645.752	1591.85	2929.181	1910.342	1095.886
1508.65	1426.99	1785.313	192.234	362.937	256.82	150.404	576.086	2638.985	828.604	485.044	587.62	3146.482	1278.585	2338.024
1648.29	3646.29	1582.468	309.419	131.949	1796.23	1156.017	286.044	2050.596	470.434	444.137	209.92	3258.747	881.661	509.804
1182.47	908.574	1031.296	1031.757	906.113	1491.89	429.988	412.918	3694.118	568.397	947.789	682.97	145.944	2107.497	312.803
1792.39	463.206	885.198	540.408	673.587	304.04	523.337	859.977	2375.087	724.337	131.334	287.27	2081.815	2405.383	2213.149
2310.80	447.366	514.418	1388.85	488.274	1199.39	261.13	614.379	3756.094	1774.702	327.259	1935.10	2587.62	2691.273	852.595
1529.26	1130.642	2523.03	1353.633	385.39	173.78	1399.308	1220.607	3002.076	1550.173	199.616	563.63	3982.93	857.978	1522.338

1481.12	2416.301	797.539	489.35	272.818	1156.94	1883.891	417.839	974.241	490.119	1321.646	928.72	2165.782	425.682	517.186
1365.78	354.018	1418.224	237.755	414.61	1441.75	1626.298	100.115	2212.38	491.503	1614.302	1255.21	2683.429	3353.941	1008.843
2062.90	733.41	944.252	871.819	359.708	1421.76	202.537	417.224	2873.049	2743.253	244.521	164.40	699.885	1071.434	1732.718
2146.71	666.667	1227.989	582.238	434.295	599.00	715.11	692.503	439.369	221.761	414.456	114.26	3453.902	1387.62	1026.528
511.65	480.123	990.85	700.807	973.472	454.44	469.358	1127.413	1636.448	477.201	1531.257	208.84	1681.353	1225.529	733.718
1545.25	737.409	981.315	1006.997	986.082	300.04	434.295	363.399	3105.113	640.062	741.715	686.20	3237.524	641.599	456.594
803.23	1533.718	940.408	454.902	305.575	381.24	587.62	298.039	2644.521	228.066	305.421	947.94	130.104	222.068	882.122
2206.08	910.573	1336.563	222.068	180.854	826.91	611.611	520.415	5037.447	669.435	1636.755	951.63	296.194	155.479	664.975
1567.24	1038.216	1574.471	550.404	392.772	211.30	239.293	328.95	2770.165	1497.732	763.399	652.21	3866.974	946.559	912.111
1028.99	2015.071	985.928	1160.015	517.493	1581.70	235.909	876.278	3104.652	1614.456	945.329	1325.03	1455.44	78.431	1572.626
2077.36	1104.344	305.267	561.784	129.642	644.98	236.678	91.042	895.348	2058.131	727.566	1189.85	5657.516	702.038	1015.302
1197.69	541.023	2704.806	506.728	264.36	534.56	456.132	76.432	3725.029	1862.976	1192.311	937.64	5479.123	802.768	1340.408
3734.41	854.441	2043.829	272.511	284.352	197.16	576.855	275.894	3735.794	1475.279	123.183	679.89	4928.412	1320.723	420.761
1879.74	912.88	2919.493	2173.01	416.763	231.91	659.592	151.48	2697.116	274.971	97.04	1598.00	2316.34	648.058	772.318
1394.39	2983.775	2629.604	614.84	748.02	201.31	1017.455	347.097	3629.835	829.527	178.239	1640.29	1530.334	525.336	994.233
1775.32	2541.484	1089.581	1349.327	489.658	169.78	1281.507	522.414	2982.391	786.159	704.806	1602.15	3493.887	772.318	364.629
2590.85	652.364	1642.753	1124.491	528.412	191.47	292.81	124.106	3187.543	308.651	557.324	1551.87	5939.869	681.738	1161.399
1278.59	675.586	2076.586	1469.742	660.515	519.19	118.724	180.7	4318.493	499.808	2144.252	230.22	3876.663	1745.944	284.814
1651.37	2811.38	3301.192	699.885	433.679	941.18	361.553	183.622	1077.124	841.522	1229.681	542.41	4787.543	1043.445	1684.737
894.27	4417.378	606.997	1344.867	757.093	1712.73	87.351	226.99	3579.085	738.947	1702.268	1230.76	2531.949	974.702	1356.094
1690.73	3077.739	2444.906	690.811	227.605	1158.63	314.956	149.327	1785.467	999	1135.102	941.79	966.244	3376.086	350.942
1149.25	3156.478	1998.77	367.551	492.887	489.04	519.339	1024.068	2539.177	608.381	1898.193	635.60	479.2	2173.626	923.337
1150.63	3228.604	1268.589	369.396	413.687	672.82	867.82	551.173	1789.927	301.73	1394.387	1046.37	416.763	1103.114	
1080.82	562.553	1729.489	252.98	234.987	1150.94	976.394	141.638	2878.893	1055.44	1229.373	1176.32	2644.675	1555.709	
854.75	1066.974	1663.053	733.872	274.51	1345.02	3083.737	98.731	1871.28	1642.138	354.018	1622.45	923.491	2115.033	
1545.71	637.601	4369.858	456.901	408.151	344.48	2805.844	906.267	2829.066	491.811	885.352	1476.05	1946.79	1173.395	
1005.46	651.442	732.949	714.494	275.433	634.83	379.393	1349.789	1858.516	1327.643	454.287	1009.92	2151.326	686.351	
1696.73	2828.297	181.469	832.449	125.798	552.56	1038.831	1421.915	2278.201	1368.089	550.711	846.60	1990.927	923.183	
836.29	572.241	623.299	897.501	372.165	752.33	1275.048	241.138	2209.765	1130.027	94.118	820.45	447.674	424.298	
1117.57	3112.649	845.829	992.08	510.111	2698.65	416.301	227.912	1491.58	205.459	145.021	1487.58	1380.085	493.195	
1016.38	563.476	779.239	493.041	207.766	2583.31	564.091	263.437	2157.632	1450.211	688.966	512.11	2458.9	728.95	
1334.72	1576.778	357.401	421.069	380.93	1284.74	1803.306	1624.298	564.245	1586.005	1085.121	1199.39	1178.624	658.055	
1790.24	1149.404	260.208	721.876	377.547	1306.73	651.442	1575.394	653.441	1298.731	2095.502	518.42	847.213	926.72	

1472.51	2067.512	338.947	1579.239	417.993	577.47	1341.484	339.715	709.419	2467.82	1741.023	1502.04	1625.375	1100.038
1637.22	942.099	1098.501	434.91	386.621	895.81	983.314	704.191	547.482	1609.689	1677.662	379.09	1069.281	711.419
367.55	902.115	2597.77	914.11	528.258	277.74	532.257	451.98	260.361	603.768	885.044	3604.77	961.938	856.132

PEG group

3522.95	338.02	973.01	2041.369	1987.697	1469.896	1267.97	4105.344	2317.878	1014.84	993.464	857.67	1598.77	521.646	664.052
1894.35	1041.45	350.634	969.166	1345.79	1049.135	2949.94	3199.539	2250.058	515.033	507.805	1624.61	700.5	2213.764	800.308
1188.31	760.94	628.527	1794.541	1424.221	859.208	970.24	4913.649	2633.449	1026.528	613.764	2001.54	654.979	1019.454	247.905
1588.47	1880.97	2356.786	1149.712	1135.563	677.278	2258.82	5394.694	2526.874	784.006	646.367	2506.73	1056.824	1303.499	160.092
412.00	292.96	1474.664	1577.393	318.339	1081.276	3406.23	5901.269	2426.144	976.547	1087.428	729.87	808.458	1198.155	971.934
619.15	3963.09	1668.281	940.715	537.024	1018.531	2162.71	4852.134	1832.987	471.203	600.384	760.32	353.556	1580.777	579.162
835.99	2548.40	516.878	1274.433	315.11	1434.218	659.13	4968.243	1625.836	729.873	754.633	2184.70	677.586	528.105	397.386
857.06	3897.89	1920.492	4414.148	596.847	2158.708	1194.16	3237.37	2140.408	1041.446	1145.252	3120.19	445.982	255.902	679.892
407.84	1008.07	2462.899	3840.369	442.753	1725.029	3368.86	3405.459	2047.52	311.419	574.087	1847.75	809.073	464.898	693.272
1816.53	916.11	3289.35	4992.541	315.11	1458.208	744.48	1817.762	414.764	2019.992	586.082	3012.84	649.904	564.552	990.85
1523.26	1380.39	2410.304	3155.094	1486.505	1207.536	2975.63	3460.515	1804.229	652.364	819.685	1196.62	1103.883	1664.283	2069.666
758.79	1063.75	1793.618	1909.881	693.733	1192.311	2717.42	3200	1436.371	1595.848	622.53	3109.42	810.611	1396.694	598.078
481.05	1348.10	1939.715	4374.471	806.92	871.203	2545.02	2043.829	649.289	1202.614	493.964	4031.22	776.317	1934.179	536.409
706.50	3613.07	1662.899	2732.334	527.336	882.584	1848.52	2133.641	582.391	815.84	1014.072	1741.02	535.794	1650.903	1013.61
301.42	1957.71	1506.498	3694.118	576.24	556.248	2562.40	721.569	885.506	614.687	782.161	3201.69	542.714	1578.777	254.056
682.66	2653.90	974.548	3391.619	1904.344	1502.653	1692.89	1900.346	2789.85	524.26	363.399	2029.68	553.018	965.936	334.487
489.97	555.63	815.225	7171.088	1941.407	1764.706	3438.37	1778.239	2977.009	560.246	480.277	936.72	670.665	1534.641	1366.244
283.74	2011.38	876.586	4193.925	2030.911	1239.523	531.64	1405.459	2553.787	950.711	286.813	3065.28	1057.901	2572.703	841.215
229.60	1147.71	4410.765	3560.784	1348.558	1769.319	1174.63	2068.435	1011.918	497.655	213.149	2000.77	1164.168	564.552	730.027
686.66	696.96	886.428	5244.137	1244.752	1166.936	3184.78	2040.754	918.262	912.111	1325.798	2153.02	1098.501	744.175	493.349
815.07	1084.51	499.5	5063.13	1627.528	2881.968	2871.20	2143.945	1787.62	295271.05	761.092	2934.72	568.089	544.252	563.783
2583.62	770.01	2654.825	1647.52	1303.191	1934.179	2653.29	163.168	1523.414	2177.624	449.058	1754.10	595.463	3207.382	899.193
1381.32	977.32	1732.718	3261.515	644.983	2116.263	2256.82	880.584	1567.705	913.187	1017.609	1591.39	574.702	3508.189	1044.521
1383.93	3044.98	748.02	4803.537	1742.561	1243.368	1772.24	431.68	649.443	884.429	1454.056	1746.71	502.115	1998.001	215.917
2014.46	2329.26	668.512	2720.8	2932.257	1995.233	2609.92	1483.276	732.026	1694.425	1384.237	1872.05	581.315	2207.151	425.529
1164.32	2279.74	1161.707	4398.001	1880.507	1796.078	3202.00	979.931	352.172	1302.73	852.441	3517.57	257.901	3544.944	519.339
3089.12	3819.45	2613.303	4427.989	1279.969	1893.272	6086.89	1961.553	204.998	1831.449	595.156	371.55	310.496	2521.799	501.499
2014.30	2341.72	827.835	3266.436	752.787	2252.98	2710.04	2429.066	323.26	1424.068	1026.99	217.76	416.917	2423.991	305.882
2642.98	1481.43	1005.152	3152.634	1278.124	569.781	3254.59	350.788	362.015	2415.379	1491.273	1634.45	760.169	761.399	364.168
4335.87	3819.61	2395.54	2366.167	1582.468	1067.897	1163.86	183.007	306.805	1253.518	736.794	1680.28	621.761	1195.54	984.852

1196.16	1698.12	1062.668	2063.822	1643.522	719.108	3913.26	576.394	1404.844	332.949	1305.037	260.82	747.559	688.197	880.892
2363.09	5628.76	1775.625	705.421	1461.899	1504.96	2356.79	463.206	199	313.725	1076.509	1494.96	527.489	853.825	1482.507
1217.84	1731.18	1473.741	767.705	1070.973	1267.974	1446.83	258.362	466.744	238.062	733.564	3871.59	1064.052	607.612	1111.572
697.42	2953.94	757.247	1030.834	882.43	3416.84	5427.45	605.152	314.341	201.922	1388.85	3443.75	482.276	384.775	1214.917
1697.19	4469.51	1812.072	2819.992	2118.108	3348.40	6050.60	1518.647	1181.699	675.74	686.505	4912.73	1326.413	497.655	2400.461
2285.74	5192.93	815.532	1095.579	1794.233	6752.17	514.26	930.873	1404.998	356.94	584.083	2175.93	849.058	571.165	775.394
1480.20	2424.15	247.443	408.151	1451.134	1201.08	4001.54	852.903	356.478	710.65	704.96	863.51	566.398	416.609	1124.337
1099.27	1541.72	274.048	495.04	1619.07	1494.66	4760.94	410.15	1560.169	1492.042	427.53	3137.87	488.428	782.007	1121.722
2887.04	5038.37	417.993	1273.664	936.563	7038.22	2107.65	205.921	2833.679	471.05	266.51	1810.69	679.123	522.722	781.699
953.94	1901.73	275.894	346.636	1326.567	4106.57	2638.68	432.449	874.74	115.494	1643.83	1027.30	1305.344	362.476	1605.998
2736.03	2988.54	554.864	527.643	754.479	3048.06	3616.46	1997.232	2950.096	105.344	1032.83	4427.84	821.684	478.278	1069.281
1594.77	2794.62	624.837	532.257	2508.727	2153.02	728.95	1123.722	1295.04	161.015	2677.28	569.17	506.113	626.374	972.088
3895.43	4606.54	1105.882	324.183	1350.865	683.43	1661.05	280.507	1130.796	200.231	796.16	1146.02	635.294	1169.55	386.467
679.59	2429.99	420.3	226.99	1848.058	450.29	815.38	359.093	758.785	838.447	402.77	2025.07	775.548	914.571	687.735
951.33	3412.38	3376.701	559.477	3122.03	1635.37	2304.65	1637.524	664.667	314.187	335.56	553.33	457.978	980.085	824.606
1462.98	4102.58	801.692	334.025	2374.779	928.57	1621.22	394.464	843.368	250.211	1439.14	567.94	708.189	3741.792	635.909
1644.60	2205.92	2944.56	1131.103	644.983	2368.94	1891.43	497.193	803.845	263.437	1369.47	3959.71	644.06	3585.852	235.14
2461.82	1733.95	504.268	306.344	1350.711	2105.34	2011.69	761.399	796.309	948.866	1464.98	2172.40	253.133	4776.163	1138.331
6998.39	2288.81	619.454	1763.783	786.159	2473.97	522.26	2301.576	1120.953	514.879	467.05	3711.80	922.568	4124.414	230.681
2131.49	6055.52	1276.74	561.323	846.597	303.73	753.56	1438.831	543.176	1081.123	555.63	3236.91	778.931	2878.739	378.316
2139.02	1766.40	2911.803	1293.81	682.045	2414.15	452.13	1053.595	374.164	239.6	671.28	644.37	850.596	2378.316	1567.859
2184.24	5672.28	2396.617	410.458	1107.574	2083.51	2093.20	632.218	113.956	1328.258	654.67	1431.14	1039.293	4407.074	227.451
1814.99	2065.67	3221.838	510.573	1111.88	2458.90	1066.21	1976.778	483.045	742.791	886.43	1492.35	330.334	1826.528	4476.74
3300.58	1373.93	311.111	905.652	1211.842	1017.92	2192.70	295271.05	696.194	840.907	2215.76	4742.95	104.114	1530.796	3168.935
3015.61	2444.29	3808.997	835.063	1383.314	1873.74	1386.39	2686.505	885.506	1112.957	1089.89	1218.92	641.907	833.526	2948.404
1078.20	2129.95	773.702	662.976	1160.784	2530.72	1713.19	1618.608	538.101	579.008	1283.51	1440.68	525.183	3020.377	2269.127
1872.66	1251.06	737.87	497.347	2191.003	1557.56	3243.21	2023.222	424.298	960.861	1805.61	1704.88	542.868	4369.243	2984.852
770.01	3813.46	1219.992	229.604	686.813	460.44	2539.95	2676.817	158.247	736.178	1307.19	2696.19	831.065	2780.315	1999.385
3306.73	4214.84	1264.129	733.103	1245.367	3728.72	1550.48	1643.522	1085.582	169.627	3309.80	2789.54	173.318	2747.097	3128.335
953.33	4464.74	496.732	1002.999	904.421	709.42	1916.03	5100.038	541.33	439.062	858.75	2154.56	378.008	2833.679	4117.493
516.57	5285.97	1071.126	1195.233	2420.146	1602.92	1597.23	1611.688	959.477	273.28	400.31	1552.02	1350.557	4986.236	2402.614
502.42	3000.231	1622.299	992.08	671.434	2076.13	2757.86	1626.298	1648.289	445.367	1627.84	2432.30	380.93	3057.901	2938.101
2388.31	1194.771	263.745	1053.902	2659.285	1698.27	1918.95	2393.387	347.712	569.627	1632.76	1507.42	988.082	4784.929	3689.658

2553.17	2567.013	1338.255	1325.336	2292.657	2678.20	2200.38	2269.589	466.128	1495.271	877.20	2801.85	434.141	3661.976	2915.648
2885.66	2462.745	1622.76	242.215	2411.534	2716.03	3727.489	3292.887	343.56	1342.407	1172.63	3872.51	387.543	3591.542	4172.703
386.31	2697.578	1483.122	222.837	1096.348	2783.39	3602.768	1561.092	341.1	819.07	922.72	1999.23	442.753	2586.544	
219.15	182.545	3098.808	1886.198	1915.879	1941.56	3433.602	687.735	914.725	761.861	1075.89	1680.74	207.459	298.039	
1202.31	2517.186	1182.161	1814.379	2083.814	463.36	4444.444	602.23	869.973	986.236	1040.22	673.74	658.516	101.807	
373.55	190.696	909.035	1002.384	1110.957	2453.06	3904.037	346.021	196.078	1528.797	1693.35	3074.51	336.178	317.109	
1619.99	1483.122	1085.429	609.15	887.197	2506.42	1950.327	2414.302	1142.945	1132.641	938.10	917.65	150.865	756.786	
1124.34	1703.345	2422.914	3251.672	850.135	1551.71	3639.985	1815.302	772.626	762.015	749.87	969.32	605.767	1048.52	
1790.54	2145.175	3134.948	339.562	969.473	892.89	4137.178	2555.786	1489.427	488.581	802.92	4056.75	649.443	1225.375	
718.34	935.64	2959.17	1038.831	490.888	1102.81	2956.401	542.253	697.732	974.856	990.08	3309.19	340.638	1441.292	
835.68	2354.633	993.156	504.575	1143.406	640.22	4737.255	1948.943	2009.689	1126.951	1017.30	1722.414	242.676	348.481	
4463.36	2592.234	1493.426	609.765	1268.743	1203.85	2436.909	2196.386	922.414	717.878	1688.74	3056.363	117.493	991.619	
1335.79	1515.571	381.084	2330.95	951.326	910.27	2159.323	490.119	307.574	656.363	364.48	1811.15	1227.528	1280.123	
1770.24	2439.062	454.902	1132.18	1105.575	819.69	3690.427	2511.188	917.186	1706.113	1382.85	1506.036	1468.82	873.51	
985.78	1110.035	1229.988	518.57	758.631	880.28	3829.45	587.466	288.658	738.639	650.67	1154.787	484.737	1191.388	
399.23	2329.719	650.211	477.201	655.44	1809.77	3470.819	347.559	1349.02	886.736	780.32	886.736	1771.165	256.517	

MSC group

1215.07	1275.97	347.405	610.688	217.455	332.95	2612.07	569.01	570.088	2896.424	4551.79	387.08	7035.91	2821.992	3775.78
3194.16	1019.76	719.569	661.284	312.495	1509.11	929.34	743.56	2123.183	5001.46	1114.8	344.18	4210.84	595.925	1648.14
2477.51	988.24	1924.337	2175.471	403.076	7361.32	572.40	497.50	1291.657	649.6	85.04	489.66	4083.51	534.102	3904.65
513.34	3349.79	2826.605	708.343	585.775	3157.71	1653.67	919.80	1768.704	1996.31	372.93	924.26	5912.65	2858.285	5136.79
358.32	1129.72	442.445	427.835	2047.37	2729.87	683.28	639.60	2628.989	4766.94	1594.62	1950.79	1654.748	3180.008	2680.2
958.25	2644.37	574.856	244.675	1428.22	1911.42	872.90	560.25	1938.793	2210.38	2616.38	1506.65	636.832	2464.129	5822.07
3853.44	591.77	1625.375	1459.746	272.82	463.21	692.50	470.28	1129.719	6054.59	4873.51	1750.87	664.206	4362.322	5302.27
3943.41	762.48	990.696	2107.343	128.1	1446.52	3878.35	216.23	1005.152	1459.44	1492.04	218.99	1154.171	2975.779	8024.14
1076.51	335.41	370.934	1144.022	270.97	1152.63	1032.83	241.29	394.464	1636.91	1837.14	662.21	352.48	4140.715	5788.24
1210.30	517.49	291.888	423.991	769.4	1937.25	708.19	504.88	803.076	863.51	957.94	708.50	93.041	3602.614	1117.26
910.57	405.38	465.975	523.645	284.35	967.47	1181.24	626.22	1289.812	1661.05	2039.52	1712.11	1814.533	3874.664	5373.63
2244.06	488.27	2138.716	396.617	871.51	7265.67	2951.48	368.63	2810.611	2179.01	1284.89	1743.48	829.527	3661.053	1260.59
1838.06	1138.95	536.717	298.193	2007.69	3125.26	662.67	987.01	764.629	1584.16	3877.89	400.15	813.841	3098.501	5257.52
2149.94	1504.65	300.807	1891.273	347.56	386.31	582.85	750.02	1416.071	6371.09	3005.15	1349.94	1208.151	4191.465	1221.68
2299.58	651.44	1442.215	1015.609	466.59	320.18	715.11	607.31	268.512	1319.8	2361.25	599.92	1193.849	4279.739	6119.8
3293.35	935.79	2519.8	879.354	372.32	1044.98	326.03	1113.73	510.573	631.45	4953.48	697.89	686.967	2086.582	4929.64
2297.42	580.24	1230.142	1417.916	1017.3	2957.48	819.22	318.34	1787.005	5198.92	2084.12	1160.94	1457.747	3771.626	3316.42
741.25	782.47	337.716	867.974	2573.78	273.13	876.13	1040.52	2108.727	2429.22	2160.55	1556.63	1258.285	2895.656	599.31
1076.36	387.24	862.13	2482.584	3731.8	1547.4	407.07	1955.86	1925.875	444.75	1694.73	603.61	2704.652	3656.132	8068.44
948.10	289.89	242.983	500.115	5921.57	3246.75	975.78	401.85	789.389	690.35	879.51	485.20	1851.596	2832.91	6249.13
2243.45	2435.53	1762.707	1110.496	159.63	407.54	611.46	1045.14	2733.41	1182.47	3096.19	1005.46	905.652	2527.182	744.02
1559.86	1016.69	540.254	911.188	156.25	320.49	448.14	375.55	288.043	527.03	415.69	362.78	2784.929	2387.543	585.16
1306.11	2281.74	953.018	952.095	1252.29	1266.44	700.35	553.17	552.864	3253.06	827.84	433.83	291.888	842.445	530.1
585.31	1295.96	347.866	1449.443	1790.39	734.79	4206.08	648.98	182.699	1945.41	1886.66	492.12	1962.476	3698.731	2350.79
245.14	670.05	1162.322	1010.227	1674.59	288.97	1338.56	1285.97	3827.451	544.1	983.47	788.31	668.82	1604.767	1851.44
370.63	2504.58	1083.122	1234.602	735.41	2069.05	759.86	499.96	778.162	5014.07	478.12	732.64	1991.234	4048.289	4028.76
1500.04	906.73	529.181	412.611	1138.64	3903.11	357.09	1077.12	1241.215	1887.74	737.56	499.96	1508.343	2330.488	1846.21
1481.74	1358.25	342.484	618.378	764.63	1457.13	437.52	663.75	263.899	2222.38	224.84	578.55	373.087	3695.04	3781.78
541.48	428.76	948.097	1424.683	1420.68	1881.43	198.85	531.33	3128.95	4800.77	1442.98	1276.89	1527.259	1424.683	1136.49
2280.35	1192.00	269.435	896.271	1252.6	752.48	381.39	1152.33	1101.269	813.23	2797.69	571.78	377.855	2147.636	689.58

876.28	660.05	2400.769	696.04	2208.07	2411.84	733.26	759.25	419.531	4050.6	720.18	599.62	340.946	3802.69	6675.74
2414.46	913.34	1202.461	550.25	811.23	2047.52	557.79	657.44	495.809	1280.74	1272.59	226.22	1435.14	301.27	947.33
960.09	825.68	8336.025	756.94	690.81	2111.19	580.39	5351.63	1645.829	2454.75	417.53	482.58	1227.22	538.25	276.97
883.66	2752.94	11746.251	2965.782	617.15	883.2	700.35	3437.91	935.333	799.85	255.9	366.78	1079.585	708.65	4816.46
2341.25	799.39	3529.258	867.359	2254.83	7331.33	1428.99	4542.87	874.125	1473.74	143.02	1778.85	736.794	7067.28	4762.17
1244.75	2540.72	1679.969	435.371	730.49	9762.09	1180.16	4324.64	656.824	1743.64	4319.88	772.17	1174.318	333.72	5034.53
2221.15	368.47	1311.034	1836.986	1367.32	1045.44	1581.39	5434.37	768.32	1656.44	479.51	2530.57	760.477	2284.2	1626.3
5715.19	619.30	515.494	1001.307	396.92	3724.88	187.16	3306.88	673.433	882.12	6280.2	504.73	1523.414	1544.79	3740.41
2680.51	536.72	597.77	1476.509	869.82	4010.92	153.79	6138.56	493.656	1699.04	1933.56	517.65	590.85	489.04	2666.21
1061.44	1029.45	691.119	1063.13	1108.96	2123.49	80.12	3630.76	752.48	2065.21	830.6	909.96	687.428	384.16	3404.54
2790.31	1018.38	1257.978	815.071	673.89	1023.76	955.79	3655.98	606.997	2079.2	1097.42	313.88	788.62	2876.89	759.4
588.70	741.41	583.314	262.053	1237.52	791.7	327.41	4259.29	488.274	3883.74	345.87	405.84	4655.748	964.71	931.03
1036.52	2228.37	665.898	1521.722	852.44	1619.68	226.53	4409.38	285.429	1205.84	687.89	1487.58	1437.293	1407.92	4415.84
1168.47	1019.61	448.597	1864.975	508.57	416.3	196.39	3457.29	958.862	3708.88	419.22	737.26	850.596	312.19	284.97
1093.89	297.73	7858.516	1153.095	2201.46	384.62	1337.95	5126.49	467.82	942.1	263.74	1081.58	507.036	1422.07	7508.8
476.74	485.66	20579.316	1254.748	1019.61	1689.5	780.93	3694.73	3140.946	4090.27	484.74	867.21	2477.662	419.22	6662.05
1505.58	600.85	6032.449	571.934	548.56	1361.01	1475.89	5680.74	1351.634	1833.29	1286.74	493.66	2709.419	1250.13	7417.45
429.84	1357.48	303.114	1022.068	562.55	939.33	206.08	4878.12	296.04	1130.33	999.62	837.06	1546.636	498.12	2908.88
696.04	765.71	1493.887	435.217	564.24	865.21	205.77	4191.77	913.033	1307.96	421.68	2481.51	1679.2	831.83	2325.87
889.50	687.43	777.086	245.29	487.97	1612.76	412.76	3878.35	661.592	2204.84	276.51	897.81	1725.798	621.76	1783.93
1020.99	746.02	2812.457	1083.737	549.02	1233.68	169.63	4008.15	432.757	1103.58	330.8	1283.51	1156.017	486.43	683.43
338.79	463.05	1733.333	1205.844	757.71	165.01	219.76	5256.29	1934.179	1250.44	662.51	1108.19	1844.983	378.47	1820.22
1383.16	521.49	4684.66	1281.968	1299.96	795.23	1229.68	4029.84	1217.224	5150.33	419.99	945.94	1941.1	1044.68	278.82
356.48	453.52	9839.446	1326.874	551.63	240.83	805.23	4869.82	1673.356	2827.68	399.08	211.15	3560.323	995.92	771.4
2027.68	551.02	469.973	757.401	944.87	470.43	3305.81	4005.23	1297.962	385.08	3059.59	1424.99	3761.63	1248.44	325.72
891.20	3255.06	811.073	935.794	749.71	701.27	496.27	3593.08	1529.104	575.47	2925.03	309.73	1250.596	447.98	728.95
1440.83	671.74	1503.576	1209.381	822.3	1606.92	673.13	2845.68	2596.386	511.65	4020.45	270.82	7662.745	1021.76	799.23
610.53	403.08	3573.087	1266.897	980.08	617.92	434.30	4136.87	1697.347	5188.16	855.67	523.95	4307.113	741.71	680.66
408.77	1688.12	6127.489	823.837	621.76	750.48	507.65	2954.40	1277.047	2114.26	2259.28	1039.75	1048.981	2477.66	251.9
1335.79	565.48	1282.584	670.05	1912.5	738.49	464.74	4482.28	234.679	1133.87	692.04	545.94	1365.321	3159.25	356.17
994.69	488.12	590.85	1172.78	1501.27	563.32	216.69	3997.39	1032.218	811.07	1511.88	487.20	724.029	1740.25	244.06
1043.14	289.58	776.778	890.581	3591.23	1166.01	658.67	5112.65	1586.467	1096.66	1292.43	233.76	315.879	1482.81	601.61
1646.44	305.58	405.998	1025.144	1793.93	425.53	540.87	4756.63	949.942	1132.03	5973.39	626.22	1246.29	1737.49	616.99

2230.83	294.04	1295.04	848.904	2509.03	2708.65	550.10	4717.88	953.941	254.36	3368.4	1651.98	3020.838	1570.01	352.48
267.13	1885.12	551.788	731.719	4777.55	5254.75	523.03	6107.04	707.574	295.42	2799.69	946.56	5145.867	1438.22	326.34
1484.05	735.41	2946.559	967.935	2957.79	2140.1	494.89	3747.64	815.225	938.41	1991.54	2145.02	1065.898	1206	407.07
1016.38	918.72	812.303	610.996	1563.71	215.61	249.29	4120.88	897.655	337.25	559.78	1684.89	1232.449	974.24	246.83
423.99	701.73	665.744	1179.085	331.41	3473.74	262.98	3665.36	1646.751	4121.95	1785.47	2238.06	537.486	533.64	497.5
550.10	1540.79	479.354	681.738	149.63	2919.65	383.85	5006.38	1289.812	249.29	1267.67	700.50	656.978	547.94	676.05
689.12	655.90	358.324	649.289	1093.89	470.74	1057.59	6080.89	2232.987	3278.28	1190.16	822.61	1217.378	838.29	440.14
485.04	2260.36	658.055	1508.343	903.65	501.96	196.23	5208.77	919.493	1601.85	603	664.36	1079.277	2033.68	680.05
766.01	1189.24	1438.37	732.949	1456.06	684.51	409.38	5422.84	1064.821	1713.34	1944.79	42.60	1535.563	519.95	893.04
2589.47	702.04	497.347	715.725	424.61	476.89	133.33	4854.90	1886.044	3180.93	874.28	1277.66	1596.77	1478.51	588.08
542.56	682.66	1062.822	1266.436	2276.2	420.3	292.04	4253.29	967.628	495.19	713.57	59.98	685.582	398.62	863.21
2110.57	1327.49	937.332	817.686	3542.02	569.17	461.67	7519.26	1556.94	557.17	2605.31	2182.39	1072.203	198.23	797.08
487.66	175.78	437.37	1625.836	2512.88	2638.99	713.88	7098.35	924.106	3174.32	531.8	256.67	1132.334	194.54	657.29
774.32	347.41	772.933	1054.056	1124.64	735.41	473.82	4332.80	907.19	1895.42	486.89	257.75	1068.973	238.52	658.67
557.32	457.36	1048.981	1462.822	1750.87	1637.99	2080.28	558.247	288.197	695.27	547.48	601.92	919.031	394.77	365.4
2242.83	398.46	913.956	390.927	763.71	189.47	671.13	307.728	3598.616	971.93	1753.17	1007.61	884.737	915.65	293.73
1575.86	457.98	791.234	566.551	1761.94	955.48	543.33	443.829	607.612	2542.71	1407.46	482.74	2658.67	1623.22	237.29
522.11	1488.66	1386.39	1315.648	2208.69	3146.33	697.12	855.978	1234.141	1151.1	194.08	409.54	1962.322	1327.03	266.82
472.59	443.52	1959.862	1103.576	1368.09	647.44	642.37	1176.932	1226.913	2563.94	3470.67	1905.42	2668.051	1729.18	253.9
247.91	403.38	674.048	2033.679	4311.26	2837.52	1365.17	905.037	2302.653	7404.08	6493.04	917.03	2668.051	628.22	367.24
438.75	770.93	710.035	2943.483	574.09	3888.04	952.25	796.617	1714.418	1148.94	1467.59	1485.58	3906.805	670.51	704.19
872.43	276.51	724.337	560.4	2496.89	3438.52	697.89	470.127	657.747	151.79	3346.25	456.29	443.676	472.59	294.04
909.50	492.58	1019.454	589.619	2362.01	1657.05	4511.80	232.68	2132.257	360.63	4302.35	160.25	1052.057	313.73	519.18
1324.88	515.65	1982.161	818.762	1441.75	2629.14	2350.63	1473.895	1574.164	621.76	2786.31	1365.78	2493.656	297.89	178.09
466.13	4408.15	1146.79	357.093	1536.49	4045.52	2211.77	2945.329	1319.031	114.26	2850.44	2774.32	1124.337	2548.4	243.14
817.22	206.84	3956.478	228.989	1649.52	3447.14	2017.99	1898.808	1429.45	3885.89	2497.35	1834.53	986.544	1223.68	644.68
585.47	1403.31	562.553	220.992	601.46	3870.36	1604.46	1014.533	930.873	3244.14	3513.57	1823.30	548.251	256.82	129.64
390.62	1892.81	368.474	923.03	2195.16	4909.8	1871.90	1210.919	751.096	2275.28	2379.08	2810.77	1256.594	1000.08	238.37
682.66	825.22	3214.148	1194.925	1725.49	923.18	2264.21	778.624	3041.907	3633.37	1588	390.31	1042.522	1403.77	184.08
2122.11	1002.69	1152.787	579.008	281.58	731.41	3647.83	433.833	1444.675	470.74	1956.32	2090.27	3789.773	2551.79	258.21
374.78	1547.71	1124.798	1544.79	974.86	437.22	3942.95	553.018	1191.849	1399	3525.72	1499.89	1333.795	538.72	119.8
626.22	584.08	796.463	457.516	2332.33	2254.06	3721.18	907.958	1428.681	1806.07	6065.82	358.32	809.227	2369.55	77.05
4302.04	865.67	941.638	362.937	1812.53	3490.81	951.02	1126.49	1163.552	1601.85	1186.47	1560.48	845.675	298.81	221.45

695.58	933.95	408.92	496.271	1121.26	2216.84	3323.65	2193.003	972.088	2860.75	614.07	642.98	2379.393	505.81	404
906.42	4064.59	1889.12	1074.202	1226.45	5444.06	2496.12	578.7	719.108	1490.97	3017.3	1263.98	2942.714	455.82	267.74
1149.87	282.97	5302.576	1057.901	1184.16	4272.51	4049.21	778.624	965.782	1170.17	3330.72	553.63	1217.532	602.38	131.64
682.20	346.79	323.568	433.218	867.05	1869.43	150.87	242.83	275.125	746.94	689.12	2171.78	2339.254	765.55	111.8
347.25	443.21	847.213	1377.624	2147.33	1036.52	342.95	465.975	465.821	535.49	4613.46	467.05	7561.092	242.06	263.13
1029.91	281.58	1077.586	1239.062	1473.74	4422.61	817.22	1868.358	833.218	1471.59	723.72	741.41	1485.121	335.41	139.18
1090.97	1568.47	2199.769	1427.143	4139.95	3424.07	495.81	390.465	458.439	1686.89	613.15	565.17	1483.583	374.16	201.92
374.16	2437.99	2760.169	2881.815	2963.63	3118.19	798.62	1127.72	2255.133	1811	2974.55	158.09	1839.6	866.13	310.19
1482.05	1862.67	845.829	2531.949	732.03	2110.11	427.37	970.242	363.091	2401.23	1708.11	288.81	2083.66	513.34	204.54
460.75	3120.95	701.576	1223.068	1383.31	899.96	775.24	1631.988	181.161	1420.84	367.24	708.50	2452.749	264.36	463.05
344.94	1138.79	722.03	1259.054	1268.9	633.76	1557.25	834.756	272.357	3645.83	2675.43	857.98	2617.916	261.44	348.94
457.06	958.55	2338.485	788.005	705.88	250.06	959.02	1732.718	294.502	927.18	1577.85	884.89	7198.616	1363.63	692.96
262.36	2650.83	2035.525	1012.687	359.4	670.97	363.86	555.94	384.16	3343.79	2045.37	2744.33	3615.994	1410.69	272.51
1011.92	1440.06	2748.481	1389.619	761.55	545.64	855.06	1616.148	432.449	487.5	939.33	2804.00	3931.872	1156.79	84.89
794.16	5879.43	2969.319	1288.581	1090.35	2634.68	439.68	5267.051	1265.821	361.09	465.51	3354.40	3148.943	1158.02	545.64
1036.99	324.80	2445.213	699.731	2350.33	893.35	570.09	1725.183	294.195	1021.15	242.06	2983.62	5093.118	569.32	481.05
661.13	506.88	875.509	1427.912	489.66	1015.3	2725.72	1618.608	682.968	3388.24	946.25	3916.19	2727.874	525.49	106.11
566.24	466.44	2149.327	771.857	881.81	1232.45	829.99	982.699	1989.389	1872.66	1541.25	1398.08	3308.112	406	175.32
643.45	1020.38	996.232	1143.714	1835.76	556.4	1318.11	1213.533	1666.436	922.26	3083.43	2254.36	1680.431	602.69	91.04
643.60	2538.72	3485.429	1149.25	597.77	1201.85	2339.87	245.29	4031.68	2387.54	3463.44	2240.83	2573.933	363.86	318.19
285.43	1268.28	429.988	1811.303	1053.29	1961.86	443.06	4456.44	1307.651	3590.31	960.55	4564.86	3651.672	504.73	133.33
829.84	1543.87	461.515	636.524	997.92	1456.98	638.83	2819.07	1945.252	772.78	1477.28	3876.20	2757.093	780.78	149.79
358.63	926.26	612.072	477.509	233.76	617.3	943.18	4465.821	2782.776	3090.2	819.99	7019.76	3237.37	565.78	222.38
265.13	2637.14	564.552	1192.618	2244.37	390	955.63	6258.977	4315.725	2890.27	1658.9	3070.05	1923.875	707.73	347.1
772.17	2319.88	427.374	879.2	1883.28	378.32	1266.13	4439.831	612.534	3627.53	347.71	3777.32	2690.196	812.76	291.12
786.77	927.95	852.288	1195.54	2153.94	512.26	3524.18	3791.926	978.547	2024.61	265.28	4706.34	2279.892	989.62	176.39
905.34	517.65	501.961	1027.605	2349.56	526.41	997.92	1483.737	1686.89	1250.44	3233.37	3809.46	1425.144	867.05	476.28
2372.78	1611.84	267.282	493.81	652.21	402.61	1438.68	1023.145	1942.637	522.11	4624.68	4377.09	3000.077	2734.49	127.8
425.07	3351.94	899.193	419.839	1697.81	449.98	873.20	293.426	3902.96	109.5	2421.38	2892.43	2816.609	1358.25	482.43
1741.02	3538.02	489.043	194.694	1247.37	776.16	676.20	234.064	693.272	2440.91	3699.19	4581.78	4443.829	600.08	552.86
429.07	4985.62	434.602	854.287	1120.65	460.13	1346.41	1105.267	4889.043	3758.71	1533.1	2359.09	2622.222	766.63	364.48
1252.60	428.45	819.377	865.667	3191.7	773.09	825.07	6459.669	2500.73	1369.01	1308.42	584.85	5019.915	2766.01	341.71
2680.35	289.58	674.202	955.632	1780.85	1671.97	1223.38	1457.593	2125.183	4709.57	1475.74	5150.48	4546.867	1051.44	856.9

422.45	1507.88	726.797	781.699	1335.49	1433.91	2490.58	2374.779	2141.484	2909.19	4285.58	4575.16	6063.206	631.45	141.02
515.19	2438.14	473.818	826.605	3025.3	1476.20	1228.91	1134.794	4693.579	2396.62	2591.46	6749.40	4782.161	2221.45	233.6
876.28	1504.50	880.431	535.333	939.48	2324.03	629.45	1237.524	2506.882	5581.55	3596.92	3090.97	2815.225	591.62	156.09
1438.06	1112.34	416.917	1510.035	10046.75	1052.98	508.88	946.251	2212.687	1470.36	2896.42	2670.05	3438.831	534.1	340.48
472.28	2725.11	573.779	546.713	5686.12	1367.17	1006.69	811.073	2381.546	963.63	1731.03	962.25	2321.107	525.95	258.67
587.77	2631.91	423.222	1162.168	1332.72	1762.40	1080.20	704.806	1673.51	1595.85	2705.27	4846.44	2024.606	2460.44	279.89
119.03	464.28	941.484	511.342	739.87	1341.95	3070.51	638.062	4873.356	998.08	3248.29	4535.03	2443.06	959.48	337.56
1710.88	961.32	947.482	1203.998	576.09	346.02	2980.85	492.272	861.207	2400.31	4761.55	4372.32	1625.682	712.96	441.52
2180.85	1888.66	612.226	1346.098	1033.14	446.60	1797.16	141.484	2770.165	2101.35	4385.85	2392.00	1410.534	2091.66	219.45
1231.07	3771.47	175.471	977.163	683.74	1133.26	775.39	183.007	3454.056	1063.9	2159.94	7552.48	2157.632	496.73	378.32
898.27	3183.08	458.9	783.391	1595.54	614.07	1603.23	2461.053	2690.35	4542.25	1204.31	3938.02	3621.376	2264.98	287.43
607.00	1328.11	700.5	531.795	1446.06	550.40	3731.49	1671.357	3616.763	3084.35	1603.69	3956.48	1705.805	570.86	364.17
2417.22	3572.93	341.715	1001.615	865.21	689.74	866.13	1176.317	1365.629	2071.82	1111.27	1970.01	5710.88	249.29	485.2
960.71	2532.41	305.421	3398.385	3433.91	876.13	432.14	1012.841	4286.659	327.26	1709.19	4558.09	3138.793	823.53	453.83
3678.59	746.02	1049.443	1248.75	2630.83	1207.38	1688.12	1295.04	2000.923	1928.64	2618.84	4728.03	2479.508	325.11	401.08
354.33	1004.54	1255.517	3183.391	1112.65	1822.07	324.95	1217.993	3428.835	3343.64	1865.13	6577.78	5545.713	400.77	330.95
740.48	1032.83	657.132	816.609	828.14	1013.46	929.49	857.209	1508.497	2253.13	538.10	3450.52	7537.101	414.3	443.37
451.83	1186.47	1299.654	358.17	843.98	646.52	1247.06	2437.985	1491.888	1427.76	808.30	3805.61	1737.639	744.02	383.24
1736.41	3183.70	524.567	1414.225	655.9	1283.66	971.32	2305.575	4766.167	3129.57	1261.82	7731.03	3259.977	446.44	225.91
510.42	2049.06	579.316	1298.731	2897.81	901.96	507.19	2000.461	2026.298	2936.72	1752.25	884.43	1666.59	3286.74	434.45
911.96	3725.49	1116.494	2632.526	1476.2	529.34	789.08	1219.377	2271.28	2145.48	1356.86	688.20	1081.43	1210.92	332.33
756.48	2156.71	996.54	1103.576	185.62	1076.36	2024.45	1404.998	1768.243	5338.87	783.85	3494.20	4563.783	483.66	479.2
1520.80	1254.29	1137.409	1215.994	5744.87	1060.05	799.54	1657.055	1389.312	2092.89	1033.14	679.74	5328.412	1269.82	692.96
1957.56	713.73	627.297	1942.637	1592.16	1274.43	1705.34	1126.797	2878.431	3117.88	774.32	4397.23	2111.188	1010.84	466.28
2298.65	517.96	289.273	1103.114	605.31	819.07	830.45	3458.824	549.635	4041.98	1694.89	2460.13	1689.965	263.74	936.87
406.61	604.84	795.54	725.106	3408.07	1060.05	879.20	1534.794	4433.679	408.61	1190.00	7612.61	3631.373	849.98	1110.34
748.48	652.98	190.542	437.063	1450.83	452.29	815.69	2646.213	2501.807	2503.65	2402.77	4395.69	1440.83	514.88	661.28
1291.66	3062.21	368.781	451.519	5639.98	492.12	311.57	1832.065	1024.837	1957.09	749.87	6890.73	3243.06	669.28	594.85
688.66	10043.83	207.612	994.387	5890.5	3522.65	1085.12	1128.95	2090.119	3180.62	1023.30	6860.90	3547.251	563.01	121.18
3962.94	1699.96	813.995	675.74	2365.55	5092.81	901.19	2952.403	2256.363	1137.87	681.12	3807.37	2620.223	916.11	746.79
3087.12	5824.53	1091.888	730.181	343.56	4469.82	828.14	1043.137	4507.651	1785.47	938.41	5671.05	863.206	1083.12	458.75
1760.40	2465.21	855.825	903.652	7597.39	7831.45	997.31	2794.925	890.734	3713.65	944.25	4843.37	3042.522	395.39	1038.06
1157.86	3123.41	2283.583	267.436	7386.24	679.74	1027.30	4487.043	2373.241	1038.68	723.57	4353.40	2435.371	1247.98	557.32

1856.52	3096.96	721.876	757.401	3672.9	440.60	775.86	1353.633	2520.415	796.77	534.87	6253.75	3965.398	506.11	327.26
3590.47	461.98	1496.501	499.808	2883.66	883.20	2463.82	3295.502	4457.055	1663.82	2072.90	7101.27	2200.538	557.02	547.94
676.20	5048.67	6795.694	476.278	2019.53	719.57	721.26	3027.912	2155.786	2376.01	985.78	4155.48	1414.994	401.54	608.07
507.65	3037.45	1284.737	953.633	5700.73	956.86	880.28	5866.974	1996.924	1066.21	1490.35	4456.29	2534.717	385.85	758.02
644.06	1974.78	1638.908	1142.791	2610.84	690.81	687.27	1490.657	2004.921	972.7	1796.69	5527.57	3038.677	440.6	411.69
839.68	1281.20	1325.029	1192.003	7430.53	2511.50	1001.15	2547.328	3025.452	867.97	1033.30	2186.85	971.626	336.02	470.74
383.24	2375.24	847.828	690.965	1595.39	537.64	422.91	1493.887	2139.639	741.25	1680.28	4725.72	4672.049	397.08	740.33
2308.04	1289.35	1565.859	435.679	11359.78	620.68	342.18	2113.341	1913.725	2266.67	799.08	6143.02	796.002	1479.28	246.52
1365.32	2192.70	183.007	523.183	1023.76	3983.39	433.99	580.7	1821.761	3588.47	256.06	5064.82	3916.647	517.19	855.06
1072.20	1349.02	449.366	387.389	379.55	2479.51	442.60	6666.052	5436.371	4673.74	1809.46	4806.00	4374.164	466.9	863.67
4739.56	994.85	2305.113	2974.087	2288.5	2047.83	519.19	2752.326	2667.897	1882.05	743.10	5009.00	3247.674	634.68	1170.17
1165.40	5802.69	2871.357	2072.126	2006	5141.10	1649.21	905.037	1534.025	358.94	3066.51	5357.79	1363.629	458.44	535.79
2552.40	1499.42	2267.897	1223.683	1426.68	660.05	1625.84	1701.038	2678.508	3374.24	2158.55	5642.45	3966.782	1482.2	1116.96
1094.81	628.37	1289.504	5705.19	1866.05	952.71	972.24	1419.915	1638.908	1614.46	380.78	7182.47	5776.855	1411.76	1120.18
177.62	1387.93	2267.282	1546.021	779.24	625.30	477.20	731.103	3297.501	1370.4	3201.38	6164.09	4798.001	157.79	719.72
676.20	1338.41	331.411	3287.659	2015.69	645.29	2308.65	690.657	2117.186	2022.45	2278.82	4987.31	4086.89	678.66	619.15
738.49	694.35	701.884	682.353	1355.94	1319.80	395.54	1224.606	1926.182	256.06	867.51	7420.07	3715.34	984.39	541.18
2536.41	1286.89	205.921	709.266	999.15	1995.85	352.02	289.12	2660.515	3649.67	2249.44	4672.20	1240.907	211	570.4
652.52	271.28	264.052	669.742	704.96	629.30	697.89	995.463	869.204	1978.32	895.96	4799.08	5108.343	723.72	653.44
454.29	6057.82	2202.845	409.689	1269.36	1053.44	1349.79	614.072	2193.618	2939.18	1799.77	4243.60	4000.308	833.68	623.91
637.60	734.33	3312.88	812.918	1041.91	733.26	616.99	1174.625	2273.28	2705.57	1886.97	4002.00	4897.347	678.97	941.18
1387.47	520.72	1046.828	692.195	3330.87	630.68	822.76	3308.727	1617.993	1959.4	764.17	5925.72	1495.732	676.05	
1982.78	719.72	120.261	880.431	1198.31	813.69	387.08	1721.953	1785.313	952.86	1012.53	6308.65	1366.705	5033.45	
687.89	3616.76	525.183	551.326	173.63	1492.50	1251.83	823.683	3459.9	1650.6	1994.16	6650.52	5239.677	320.03	
1019.30	2259.44	572.088	779.546	509.03	1256.13	784.78	2918.877	4418.147	1024.38	841.06	4970.70	4603.614	249.29	
410.00	1385.01	1323.799	378.624	549.63	752.17	378.47	1227.22	1043.752	741.41	388.62	5318.11	3642.445	3599.23	
1768.09	1113.11	2107.497	604.383	2546.56	894.27	452.29	1453.133	4535.486	396.16	1227.07	5279.35	3450.519	3657.67	
1970.63	640.369	1680.892	849.058	2108.42	796.31	504.42	1139.869	1817.916	3079.74	2269.28	6346.48	4598.385	5935.41	
3039.75	376.009	1205.844	726.797	6919.18	1725.49	587.16	2770.627	2815.994	2551.63	2989.31	7613.23	3707.036	237.75	

PEG+MSC group

4933.18	724.49	6150.56	523.64	1245.98	768.63	3670.74	5584.93	3108.19	1587.7	232.22	1152.79	1622.30	1817.45	2622.99
9868.36	447.83	2924.88	220.22	2193.62	702.96	1986.47	6746.33	517.65	2926.41	840.29	1106.50	2830.14	2796	2305.11
4702.35	496.58	887.5	1102.81	2592.08	803.69	434.14	7727.80	5619.38	717.26	699.73	1807.31	1260.90	1813	3013.3
4430.76	852.29	626.84	348.17	4384.78	708.04	2754.63	2342.79	547.48	2823.84	803.69	1209.23	3289.50	1987.85	3639.98
5547.41	309.73	1802.54	406.92	581.62	1129.41	1330.26	2670.36	886.74	2444.14	1002.38	1197.85	1547.56	6349.4	3449.9
3838.68	2012.15	1528.8	3864.05	701.27	753.71	1246.60	4650.98	819.84	1903.88	1665.21	1729.95	2123.18	6575.93	2887.04
4094.73	4629.45	917.49	3308.88	1326.11	1363.17	2817.38	6922.26	1120.03	1065.13	1056.21	995.00	1261.05	4713.57	925.34
7875.28	3897.73	4522.57	3143.56	1080.2	719.11	1819.30	7155.40	824.14	2781.08	1846.83	1944.64	3146.48	2368.01	5660.59
4440.45	437.37	915.65	3562.48	1522.95	163.48	3349.17	4777.86	3119.42	3013.76	1759.17	411.84	1773.32	4412.15	3772.09
7302.27	1973.70	2098.27	2414.15	1397.77	191.16	2578.85	5494.50	1421.3	2731.56	328.03	599.15	1410.23	3421.76	5710.73
3128.49	1340.87	1415.15	2500.42	1379.47	174.24	542.71	6642.68	1832.37	1080.2	778.16	648.67	3922.80	1996.46	4504.27
4173.78	4406.46	5932.95	3183.39	3531.26	449.98	822.30	2021.53	1523.26	2058.44	669.28	848.90	4026.30	3622.91	2898.12
3394.08	566.40	2684.97	3287.2	2012	422.3	4082.74	3765.32	1654.29	2766.47	1913.42	678.51	3738.72	4026.91	4155.79
7852.21	2062.59	1791.93	4008.92	2241.75	976.7	3457.90	7117.72	759.71	712.5	432.3	898.27	3237.83	1879.74	4492.58
5690.12	632.37	943.18	3959.09	2857.82	1104.96	327.26	6529.80	3173.09	1915.11	725.11	649.44	3562.17	10734.79	3167.7
5354.86	1684.74	417.84	2129.33	3965.4	967.63	3997.23	4087.81	3840.52	893.66	641.45	1295.19	4391.08	7687.97	3653.83
3257.52	1889.89	4650.67	2830.91	2268.51	755.4	3063.28	7175.55	5123.57	2909.03	404.92	1039.29	3806.84	1210.77	3221.68
590.39	1288.74	7861.9	3170.47	331.56	1175.09	3235.53	4659.75	861.67	4274.66	462.13	826.76	4872.28	3505.42	4215.92
5972.78	2967.01	2105.19	432.3	1467.13	76.74	2533.18	6238.52	1060.67	1342.87	385.85	190.08	2740.02	10175.32	3581.24
6385.39	1948.33	3875.43	581.62	822.15	138.56	2972.55	2398.46	6557.02	1650.29	3950.17	1105.58	5954.02	8792.93	5679.35
7096.66	2213.61	952.56	484.89	973.01	3721.65	1298.27	5938.02	5617.07	1974.32	8097.81	2597.16	4773.09	2988.54	4185.16
6189.47	539.18	211	394.62	3749.33	2879.35	1234.30	4577.01	5618.76	2089.97	4590.08	350.02	6303.73	2089.66	3987.08
8640.98	1364.40	3803.77	897.65	2954.09	4557.79	3348.25	4203.61	4206.07	3884.97	5238.29	689.89	3358.09	3550.33	4382.01
11998.00	2005.84	2611.76	466.44	4624.22	2437.52	3210.61	6784.62	6393.23	1970.63	6004.77	854.13	4193.62	2936.41	3375.78
4225.45	1411.77	1805.46	957.94	4749.56	1939.41	4522.26	7870.67	1126.18	2558.71	7654.9	1016.53	3625.68	5032.53	4762.94
4491.35	874.13	2686.2	798.31	1436.99	3148.79	2742.64	2374.63	5389.31	879.66	5067.74	2963.63	1799.46	464.28	3075.74
5594.16	348.79	1870.97	487.04	1356.86	4007.38	728.34	7272.59	5183.85	628.84	4085.2	475.97	5101.27	1401	2866.74
6594.08	1043.91	2586.7	378.32	736.33	3372.4	319.72	5731.49	7452.06	2738.79	5897.42	2306.81	995.77	831.53	1861.9
3474.20	1076.20	1823.76	693.43	1600.62	554.09	469.36	5259.36	6470.13	312.03	5025.3	1075.89	2517.19	2153.17	3182.78
7092.04	455.67	1802.23	2213.92	3628.45	809.23	347.25	6874.28	1373.32	462.44	3085.12	360.94	2734.95	288.2	1281.66

6652.36	1412.38	2031.68	379.7	2061.05	4620.38	2597.77	5523.88	6596.54	3314.88	6246.21	456.59	1326.87	2450.13	3159.55
2777.55	2503.19	1438.22	3279.2	1486.2	3144.48	533.03	2062.44	7081.43	2309.27	5944.94	893.50	2366.01	223.14	1753.48
1420.99	2342.33	3353.48	3765.63	2885.81	706.04	455.67	4837.99	2958.86	1193.54	4655.59	631.60	1472.36	614.99	1457.44
6763.09	4759.25	226.07	735.87	2475.97	2608.69	2619.45	9924.34	3785.77	1061.9	3977.24	823.68	2832.91	3468.51	1299.5
6689.43	632.83	2025.53	3582.62	897.04	5580.62	785.39	207.61	7798.23	2314.8	4863.98	551.17	2502.12	6006.61	993.31
3289.81	1771.63	3013.92	3197.08	3124.49	3186.62	2210.53	3731.64	5564.78	209.46	2614.38	684.97	1206.15	828.76	2470.9
715.26	1010.69	1180.47	718.34	999.31	1327.95	490.73	1090.97	3538.33	370.17	4831.68	847.37	2519.19	1118.95	1881.28
3889.27	1710.27	1874.97	4192.39	4258.05	3483.12	590.54	4855.82	6016.92	486.12	3856.06	918.72	2218.69	2401.08	3285.35
5554.79	1035.60	2166.71	3025.14	3148.48	1507.73	438.45	3482.05	6004.31	399.69	4519.8	822.61	3238.75	599.15	1374.86
2193.46	1392.23	1527.57	3545.71	2512.88	925.18	824.15	2166.4	9405.46	740.79	4749.56	485.51	1823.15	799.08	2518.42
1381.62	1352.71	621.3	3671.36	2318.19	1258.29	545.94	1647.37	3527.1	305.11	5975.7	596.54	2425.68	8209.92	1943.25
1149.25	1304.88	1754.25	4034.91	2707.57	2169.78	726.80	3967.4	3116.03	125.64	5887.89	778.62	1501.42	3349.02	3074.51
4021.99	1771.63	3865.59	4185.01	3442.21	360.48	473.36	2854.44	6783.24	161.32	3576.93	427.53	676.36	1592	4657.13
2493.81	1797.62	2313.57	485.35	1748.56	460.75	1853.13	4226.37	2400	118.57	3226.14	783.55	883.66	4808	3068.82
3417.61	555.02	2277.12	2242.68	3299.81	1449.75	973.78	2279.43	1821.76	133.95	7058.21	926.26	1012.38	293.43	4310.03
4581.93	2039.37	924.57	2905.5	3860.05	3639.83	667.90	4800.31	2732.8	578.39	4548.1	489.20	1056.36	6172.24	3495.73
2966.86	3488.50	2652.36	1115.57	2732.8	3258.9	1758.40	1131.87	7096.96	718.95	5450.83	648.52	1389.16	4897.35	3297.96
6256.36	846.44	1980.78	203.31	2716.96	3199.85	791.08	2240.37	5351.48	464.44	7682.43	637.29	1572.17	3785.16	1801.77
8393.70	1310.57	1395.31	1302.88	4681.74	3906.65	1781.32	753.09	6935.64	239.14	6858.44	405.69	718.95	3330.72	3753.63
3054.52	1796.54	997	3374.7	3275.05	2810.61	2847.37	1191.54	6788.62	251.29	8390.77	1878.20	1488.66	3093.73	4147.48
1757.79	269.74	2984.54	1911.57	3714.57	2855.67	1227.07	2723.26	6142.71	282.81	6800.15	1216.92	4151.79	3420.84	2912.73
3612.76	1302.42	2825.22	893.81	2599.77	3662.75	1449.60	1063.59	7117.42	832.3	2575.47	1132.03	6793.23	2892.89	2423.22
1248.75	1359.02	1198.15	1767.63	2752.02	6302.35	510.27	4082.74	7196.16	1438.22	832.14	1253.21	6260.21	3506.34	3396.39
2233.14	1945.25	142.41	3365.32	491.04	6097.35	3257.21	721.72	3434.06	640.06	1205.54	2161.63	8658.98	3342.87	2121.03
5268.74	578.09	186.7	3920.03	270.51	3605.07	3223.68	853.06	4825.68	145.02	665.74	529.03	6424.3	817.38	1290.89
1597.69	717.57	195.46	4310.65	907.65	3071.43	1744.71	1476.97	5279.05	281.28	1108.34	988.24	5765.63	2524.88	4246.37
3000.23	1550.79	1165.86	4605.92	125.95	3241.21	2119.95	937.18	2847.37	2016.3	825.38	599.77	5497.27	3448.37	3430.53
2248.98	1857.90	1897.73	1362.86	389.08	3130.64	349.40	3162.48	5192.93	905.5	1285.35	405.23	7294.73	3713.34	3873.43
2796.46	3534.64	725.26	2127.03	666.05	5706.27	3198.16	8202.38	7304.73	936.1	651.75	1578.62	7203.08	3235.37	3610.61
625.14	2634.22	2897.19	664.51	435.22	720.49	1704.11	3339.02	5657.67	186.24	583.01	720.19	7114.65	4499.81	4125.8
435.22	1052.83	1821.76	1614.92	315.57	3192.77	1220.92	6946.56	5219.53	188.54	695.73	629.30	6286.2	2907.34	3962.32
1474.66	2198.85	4452.6	1561.09	858.59	3119.57	639.75	10650.98	3385.16	1045.6	850.29	4712.03	6058.9	4166.24	1960.78
1184.16	533.80	9524.8	1271.2	713.42	4481.66	3248.60	5029.6	289.27	1915.72	2676.66	5692.89	7812.23	4195.31	4442.29

1636.29	1303.35	6284.51	284.35	809.84	3567.55	1377.93	631.76	896.73	1877.89	1749.48	4509.34	4751.86	4358.17	3517.72
983.93	841.98	2919.8	4427.22	700.19	5605.84	1978.16	5884.35	1207.54	450.29	849.37	5741.02	4072.43	3747.17	3487.74
2045.98	2776.93	7498.96	5067.28	444.29	4386.01	724.95	4299.58	3680.28	586.7	1371.78	6972.55	6254.83	2184.08	3872.05
2093.04	2418.92	12365.86	929.18	1264.9	3365.47	720.95	4282.66	2952.25	2065.82	698.81	2607.92	5846.52	3495.89	3000.38
4173.32	1487.12	11387.62	5490.35	1473.28	5164.17	1678.28	1663.98	3113.42	1728.57	1051.60	3523.26	6946.1	805.07	3999.69
846.29	375.55	5391.93	2659.44	3072.36	6443.83	746.48	744.79	469.67	770.32	2412.00	5781.47	6782.47	3327.03	449.98
632.22	215.30	11001.77	3874.82	437.22	4282.97	268.36	6431.53	625.76	849.98	2672.20	5869.28	7516.65	3603.69	898.12
1934.64	579.01	6725.72	1789.47	750.33	3786.7	2337.87	13339.33	3668.44	912.26	592.23	6486.12	2334.18	730.03	1167.7
3365.48	5457.29	6785.54	4258.52	1191.85	3040.22	2229.30	1827.14	1089.58	1475.12	3423.45	1779.93	5512.96	4467.82	1344.25
2311.88	628.53	3079.12	5512.34	1778.09	1259.98	1838.52	1924.34	854.9	685.27	4196.23	4793.54	6026.45	267.74	5770.24
575.16	605.31	6368.17	1598.46	1871.13	2849.83	1676.28	2644.37	797.54	377.55	2795.69	4136.72	3277.05	549.33	1084.97
3340.87	354.33	4801.38	1091.43	3348.1	3123.26	1663.51	2086.58	3338.25	315.42	1013.30	6312.96	2808.3	3320.88	4260.98
1551.10	771.55	6499.81	3360.55	2577.62	2873.82	472.28	1012.69	497.81	302.35	5806.23	4691.58	1401.61	768.01	6308.04
396.77	1312.27	9904.65	294.66	3800.38	2098.12	614.07	6653.44	3698.42	1296.12	6024.15	5484.66	1069.59	4053.67	5209.07
1670.13	1186.93	2793.23	1602.15	4265.13	3149.71	215.46	4230.83	1263.98	424.45	6453.21	4972.40	4888.58	3175.7	4658.05
2762.48	661.44	5526.34	1028.53	3992.93	3924.49	2999.15	1990.47	1009.46	1957.4	4287.89	3940.18	3124.03	2305.42	1853.44
2172.55	1124.49	6952.56	225.61	3670.13	2517.49	566.40	1281.2	1768.55	429.53	6105.50	3664.59	6150.56	2741.87	3618.45
2588.08	1671.36	6771.24	1435.45	3801.31	5648.14	3389.00	8045.67	1492.2	573.93	4953.17	2238.68	3520.34	2870.9	2736.49
2963.94	2354.63	2794.46	3180.01	5591.85	4906.42	827.37	6993	748.02	1378.7	3872.36	1899.73	1994.16	2696.5	1683.66
2736.03	2252.21	4595	5506.65	4485.04	7570.01	3558.94	1235.06	2073.97	468.74	3178.47	4252.36	4568.24	3658.13	1558.17
5656.29	1474.82	9464.82	211.92	4548.56	2304.04	3197.08	1496.66	1441.14	130.72	1230.76	3695.19	2872.13	3146.64	4857.82
671.28	760.32	7516.8	1274.43	5828.84	5072.66	359.25	1871.13	2803.23	268.36	1292.27	697.27	1706.57	2050.29	5542.48
2500.58	1937.10	5233.99	1891.58	4018.76	4959.17	2485.51	1489.89	4129.33	277.59	848.29	6196.54	2297.89	3245.83	4338.79
3348.87	1733.18	10322.34	2575.01	4723.57	4995.16	795.54	1611.23	246.52	444.91	766.78	5176.01	579.32	3214.3	1405.61
2483.20	515.65	1657.21	1339.18	443.37	4772.01	1572.47	1127.41	5060.98	322.95	2321.57	4865.21	2154.25	2873.2	4911.03
3981.39	982.24	2609.3	3246.91	339.56	2815.69	481.66	397.69	1369.32	441.37	977.93	7912.80	5103.42	4088.74	4613.15
961.48	2676.82	320.34	1194.93	154.56	2303.11	576.55	336.95	1070.82	551.48	630.68	7081.28	2479.66	2376.93	4261.13
2923.95	2958.25	4939.79	598.39	135.49	2096.73	2335.10	1910.96	2070.59	3316.26	790.00	4144.87	4028.14	2511.03	425.84
482.74	1525.11	2718.49	2222.38	115.03	5404.23	3692.58	1637.83	3114.49	1567.09	932.41	802.15	3306.57	3033.6	4903.81
2922.41	497.81	220.68	1966.17	121.95	7015.92	2116.57	991.46	1988.16	387.54	715.42	1055.75	1976.32	2552.86	7956.32
963.48	1583.24	2034.6	1487.27	315.88	2259.90	2062.28	1062.36	1156.48	388.77	1606.15	2166.09	1974.16	2784.01	6003.08
294.66	455.21	638.99	4038.14	92.27	5936.64	2090.89	4934.87	912.42	396.16	1301.50	1034.68	4176.09	3129.41	3920.18
2047.21	1337.02	3700.58	3985.54	179.32	6638.06	2698.19	4335.72	2737.41	899.35	1086.97	718.03	2183.16	2479.05	3536.79

1520.49	1203.08	3433.14	207.3	113.03	3423.30	3299.81	9826.37	2475.2	1899.58	1428.53	3066.36	6250.37	2866.9	4603.61
1515.42	866.74	2374.47	2880.28	130.41	8559.79	3192.00	7657.21	1536.95	508.88	598.85	4241.60	3175.7	2468.28	5786.7
3349.64	756.79	4865.82	5379.78	41.98	5531.57	3024.99	1257.21	1200.46	6378.47	1112.80	6412.30	2570.86	3513.73	6692.81
2889.04	384.78	3917.26	3100.81	225.61	2504.88	1797.46	1770.09	752.33	378.78	579.01	7402.54	4166.24	3664.13	10002.15
5575.39	438.75	947.17	3582.16	159.17	7854.67	3263.82	407.54	2265.9	1989.23	1332.87	6650.21	1524.34	1965.24	6792.31
2983.16	1811.92	3945.56	3700.73	235.6	4392.16	2383.85	1834.83	5070.97	3218.61	1326.72	3504.19	3854.98	3560.48	709.11
1459.44	1912.03	2600.69	1705.04	226.68	7543.71	2749.10	2002.15	3395.92	2806.61	4906.27	1121.88	2909.34	4060.75	4391.85
1460.98	849.67	2405.54	3055.9	414.76	3602.46	2802.77	5721.49	2120.11	414.76	814.61	1297.96	1545.87	2980.39	6715.57
3828.37	519.49	3541.25	1045.91	514.57	7278.59	1359.63	4083.2	613.46	166.4	1667.82	5352.86	1442.21	3254.29	6611.76
730.49	458.44	2240.37	560.4	435.52	6967.17	3016.99	441.83	707.88	337.41	898.42	5187.39	4940.25	4156.25	6680.35
246.67	1181.08	2901.81	495.5	230.83	4175.78	2370.47	1062.67	1191.85	1491.27	1213.53	5079.43	5425.14	2763.09	586.39
5249.21	649.29	3831.91	747.25	198.85	7608.46	2391.08	3776.86	1576.78	483.66	1013.46	6276.82	4756.32	4001.69	6911.65
537.33	2300.50	3314.26	1619.68	232.22	7428.37	2268.82	3898.65	1765.32	454.13	605.61	3704.27	5630.6	3639.83	7806.84
2778.01	1766.24	946.1	3976.78	395.08	1803.31	2873.36	1412.69	869.05	364.94	1367.78	4453.36	6022.45	2994.54	1908.96
3163.55	668.67	3641.68	681.58	410.46	1645.52	903.50	7091.73	961.48	1381.16	780.47	1700.58	5289.5	3779.32	3852.06
3115.57	818.76	4733.56	2785.39	370.32	6480.28	1918.95	5531.87	2075.51	2519.49	963.94	4175.01	3804.23	3475.74	6054.44
2112.73	434.29	912.73	806.31	328.95	2175.32	1064.36	333.1	518.42	3452.52	1114.03	4574.24	3470.82	122.41	963.48
728.95	511.19	4785.39	390.16	443.52	3698.58	459.67	773.24	837.22	606.69	1517.57	5375.16	2384.01	2732.8	
3334.72	597.92	3317.65	587.31	224.84	6606.54	1120.95	1818.53	3578.62	1252.13	1172.93	3463.90	2654.67	2206.54	
1556.94	2648.67	606.84	4275.43	394.46	5783.16	666.82	1200.31	1909.11	2117.19	562.55	4002.31	1545.71	549.94	
944.87	1587.7	2749.1	655.9	268.67	10288.81	436.60	445.37	2540.41	807.54	613.00	1550.48	2333.41	2780.32	
2048.60	1993.54	4410.3	3165.86	658.36	4252.83	6139.33	2661.75	580.08	758.32	1446.37	4166.86	2047.21	2003.69	
1320.11	12586.24	4296.5	2078.74	570.55	3414.23	4997.16	2094.12	864.9	500.12	606.08	2737.26	1600.31	3032.68	
1329.03	1369.47	3193.69	2975.32	564.4	3132.80	6575.78	3099.88	760.94	4021.22	778.78	3598.62	747.87	2569.47	
2722.65	2886.43	3954.33	2434.76	328.49	7797.92	6795.08	3031.76	977.47	1507.88	598.54	1868.51	2887.04	2369.55	
3898.96	4217.92	1822.38	2943.33	533.18	2851.98	3322.26	2213.3	644.68	3039.45	713.42	2239.75	904.88	1374.39	
967.94	2556.4	256.21	1567.24	742.48	4584.24	6418.92	6103.5	3424.99	1066.67	2400.46	2049.98	10164.4	2203.31	
2686.97	1355.94	2394.62	4742.95	495.19	4148.87	7092.04	724.03	798.46	250.37	3959.09	2495.66	1369.93	2017.84	

SAL

Bin	*Frequency*	% Myofibers
500	587	30.32
1000	543	28.05
1500	305	15.75
2000	214	11.05
2500	114	5.89
3000	79	4.08
3500	45	2.32
4000	21	1.08
4500	10	0.52
5000	4	0.21
5500	8	0.41
6000	3	0.15
6500	1	0.05
7000	1	0.05
More	1	0.05
	1936.00	

PEG

Bin	*Frequency*	% Myofibers
500	178	15.20
1000	315	26.90
1500	205	17.51
2000	147	12.55
2500	107	9.14
3000	73	6.23
3500	54	4.61
4000	33	2.82
4500	26	2.22
5000	13	1.11
5500	8	0.68
6000	3	0.26
6500	3	0.26
7000	2	0.17
More	4	0.34
	1171.00	

MSC

Bin	*Frequency*	% Myofibers
500	536	18.76
1000	778	27.23
1500	476	16.66
2000	257	9.00
2500	207	7.25
3000	145	5.08
3500	106	3.71
4000	96	3.36
4500	66	2.31
5000	56	1.96
5500	40	1.40
6000	26	0.91
6500	21	0.74
7000	10	0.35
More	37	1.30
	2857.00	

PEG+MSC

Bin	*Frequency*	% Myofibers
500	194	10.49
1000	289	15.63
1500	198	10.71
2000	168	9.09
2500	140	7.57
3000	156	8.44
3500	159	8.60
4000	120	6.49
4500	94	5.08
5000	73	3.95
5500	41	2.22
6000	52	2.81
6500	48	2.60
7000	41	2.22
More	76	4.11
	1849.00	

Bottom region of ECM

SAL group

930.26	2173.01	1874.664	3020.069	402.922	590.696	1618.15	2644.98	2172.088	703.114	1061.899	2003.845	785.85	895.502	447.366
1140.64	1813.76	2678.508	2286.813	633.449	2223.76	468.13	3184.78	5248.597	337.87	839.369	1866.205	1574.01	322.03	278.047
1055.90	1175.39	2076.278	887.812	582.545	274.356	1980.93	1404.38	4757.709	1433.141	1357.939	574.548	1517.26	430.911	265.436
883.05	486.28	534.41	1785.928	219.915	3363.783	2917.80	3066.05	4299.27	324.029	768.012	2639.754	1302.27	1147.251	338.947
274.05	1288.43	600.846	932.718	671.434	1568.935	1407.31	2078.59	2247.905	664.206	1276.278	804.152	626.22	747.251	461.822
262.82	1266.59	1613.995	467.205	909.958	1325.336	1894.50	2064.59	1175.855	752.941	720.031	1234.756	2068.28	338.639	402.307
651.90	1563.25	682.814	1434.371	742.176	1832.218	1435.45	2303.88	1877.432	1587.851	991.003	2486.582	788.01	342.176	443.983
701.42	622.53	829.373	176.547	519.493	1952.326	544.10	2527.95	1808.228	1149.404	640.677	1246.751	1144.33	253.441	429.681
1113.26	487.97	974.856	190.542	993.925	1318.57	454.13	2403.38	1383.622	1044.983	890.119	1815.609	1122.03	802.153	2277.586
1624.76	889.81	1039.293	168.243	180.7	534.717	1235.22	1952.33	1980.777	1184.621	1071.28	1386.697	1718.57	208.228	672.357
773.09	1416.07	619.3	2033.218	390.927	2261.13	1713.80	1830.99	1925.26	663.437	973.01	641.753	1668.59	857.209	457.516
884.58	733.26	970.396	2482.43	672.203	453.057	2455.21	2518.88	7053.441	854.441	924.721	1661.669	444.29	648.212	358.17
966.24	646.06	1231.988	2363.091	823.222	1021.915	2349.56	3866.36	6333.41	806.459	1708.112	1812.53	2535.95	695.117	3571.857
838.91	549.02	1263.514	1003.614	701.423	909.958	2474.28	2063.82	2118.108	644.675	425.529	4243.91	773.70	732.641	1264.591
583.93	635.29	300.192	703.422	764.937	1085.582	911.34	1018.53	1546.175	383.083	1022.837	1381.78	2015.84	381.392	1749.173
721.26	387.70	505.805	300.961	542.407	935.486	937.79	2916.88	1604.614	188.082	997.924	4373.86	1120.19	432.757	971.626
2300.35	332.95	3606.613	2327.874	667.743	2300.654	1812.53	2497.04	725.567	406.305	849.981	457.06	2003.08	637.908	622.222
839.52	709.27	936.87	1912.341	604.383	298.193	2109.96	2638.52	1927.413	939.331	833.526	269.28	1746.41	796.924	668.051
278.35	1035.91	1124.183	1926.028	789.696	617.762	3841.91	1749.33	2705.575	765.244	1014.84	1249.83	1478.20	736.332	440.754
551.79	993.16	450.135	2697.116	1609.535	691.888	1592.31	2290.97	2400.923	559.938	1336.409	832.76	338.33	557.17	1801.307
885.81	1381.93	739.1	756.786	194.541	520.877	396.92	1978.62	969.319	854.748	832.91	2021.99	997.31	479.969	1787.005
332.80	1300.27	190.696	279.585	832.449	388.466	739.25	2030.14	1981.084	1198.155	834.141	1648.29	2650.52	416.455	2583.622
925.64	1488.81	332.026	1369.319	1085.121	1240.907	1102.04	1032.07	2271.588	583.929	647.751	1075.89	4213.30	774.164	1682.737
2837.83	1029.91	184.083	2556.863	1278.893	794.002	909.50	1972.17	770.934	840.907	474.74	2053.36	2780.32	148.866	3163.86
1353.94	2824.61	309.727	5531.565	779.085	1699.039	2285.43	2198.69	1804.998	781.238	1856.517	629.91	3233.22	647.443	2424.452
374.32	461.05	207.459	4985.621	1432.526	1726.874	1475.59	1929.10	1850.211	668.512	470.127	3793.46	2806.92	588.85	4212.534
199.77	3772.09	475.356	4253.133	1238.754	1177.086	2148.71	1621.38	1342.099	718.954	120.723	885.51	1596.16	317.416	1322.107
1957.56	3021.45	318.8	2649.904	637.601	503.499	1448.67	1161.86	1296.578	848.443	46.751	453.98	3296.73	850.75	4136.563

1322.26	1505.42	1894.348	1437.908	896.117	999.769	386.62	2995.77	885.352	1032.065	1482.045	1954.63	3149.10	715.725	2432.91
1239.37	1470.67	729.719	1528.95	933.795	855.363	1018.99	2887.20	589.619	432.295	2173.626	931.64	3162.17	516.724	597.924
1574.01	2023.07	1153.71	4070.896	877.047	853.518	962.71	2524.26	1852.672	706.805	529.796	2262.98	2083.66	448.597	2283.122
641.45	1625.84	354.479	4105.959	959.016	1086.659	827.68	2385.70	1649.673	1029.912	1841.907	1584.62	1797.92	589.158	2412.764
1704.73	1834.99	756.324	4884.275	1042.368	3360.4	2015.23	3198.16	1557.555	472.126	1926.336	3480.82	1024.68	398.462	1346.251
956.09	2251.75	810.15	5389.927	3896.809	2776.778	2573.47	548.40	771.549	936.563	1190.927	344.48	409.23	296.04	2160.861
583.62	2932.72	182.084	4117.493	1244.444	2801.077	1400.23	2207.61	1749.02	1432.372	1809.304	1108.96	2804.15	165.475	1041.292
667.13	2190.85	330.95	5189.542	568.858	1672.126	1956.17	3436.986	1710.265	1397.463	1840.83	3437.91	3033.76	380.161	347.712
428.45	3672.74	1007.151	2059.362	744.79	3051.134	1003.31	2514.725	1684.275	627.143	2372.626	345.25	1665.82	340.484	1542.945
2405.23	2709.27	1098.039	1466.052	1641.215	3914.341	765.09	2791.234	1673.664	600.692	1189.85	312.80	2650.67	304.344	844.444
2922.57	2195.00	1298.731	1875.433	514.11	3458.824	805.38	2241.292	1241.984	548.097	2034.448	728.34	395.85	269.281	1323.952
2871.97	3283.81	1310.265	773.395	977.163	899.962	1817.30	1400.538	1637.063	1098.039	1331.488	1023.45	2361.40	225.606	5316.878
1967.71	1932.18	729.412	803.691	705.882	676.817	1447.91	2340.484	1246.751	1060.515	1592.003	1069.13	479.35	993.31	2024.452
1531.26	3604.61	303.268	1166.167	1402.076	498.116	1348.40	4071.819	2065.975	1377.624	3643.368	336.33	321.72	1068.666	1458.67
1449.75	3268.74	781.392	1036.832	576.394	1513.264	329.41	3269.973	1202.922	359.862	3991.234	788.93	691.12	764.321	2193.772
3770.86	2150.56	507.19	1081.892	913.341	800.308	922.88	1700.115	1820.992	449.519	2980.7	1660.44	922.26	1547.866	931.027
879.97	3823.45	1313.033	1194.156	942.253	2532.564	482.74	1191.388	1769.627	315.571	1289.965	490.58	1306.88	1031.142	2410.765
1660.90	2175.63	683.583	2124.875	1751.48	2397.232	1641.83	2239.293	1149.712	385.236	3116.647	640.83	948.10	694.195	2032.757
1993.39	3103.73	419.839	1823.145	994.848	1347.02	449.83	2958.093	1041.292	345.713	2577.316	658.52	1185.70	434.448	1011.457
690.50	1817.92	813.841	1628.758	2147.943	2103.191	734.49	3038.062	1562.168	223.145	1301.192	255.59	3492.35	198.539	951.48
2113.96	3070.05	1277.355	668.666	2500.73	1511.88	736.03	915.955	1170.473	434.91	2639.446	181.62	1169.24	316.032	2714.802
2672.82	3120.95	638.524	1408.997	1594.617	1666.59	174.09	88.735	1558.324	238.062	1680.431	595.77	909.65	1841.599	738.947
1347.79	4775.09	363.552	2525.49	460.746	883.968	425.99	529.027	1264.283	767.243	3502.345	190.85	1990.77	756.478	2393.387
2203.15	2551.48	4936.563	807.382	1117.57	2106.267	1403.15	427.835	911.034	1001.153	693.887	564.09	708.80	2276.663	5088.812
1200.77	3086.66	3175.394	2235.448	1757.017	626.682	618.99	255.44	1359.016	346.79	3285.506	318.34	2701.27	605.152	1351.788
1277.66	4420.30	837.832	1985.544	1484.66	3082.968	1407.92	388.466	1223.991	407.997	3264.129	550.25	628.37	422.607	648.212
955.17	2996.08	4432.295	965.013	1127.259	1182.622	1421.15	648.827	1237.832	686.351	2008.304	407.23	1466.82	1037.14	2263.13
465.05	3096.81	4424.298	812.457	728.028	1389.619	566.09	547.789	1251.365	583.468	2669.127	486.58	2809.38	1135.563	1293.502
2181.62	1593.08	1854.979	869.973	487.197	1068.512	147.02	1730.411	1701.192	390.619	2199	1465.90	4405.54	1102.038	2004.46
327.57	3243.52	1778.854	1182.468	1024.221	1382.08	870.28	232.987	1459.439	521.338	2776.624	260.98	3893.43	622.376	1789.158
1272.28	3620.92	1634.756	594.079	233.141	227.14	1276.59	403.076	871.357	429.988	3461.13	351.71	4191.62	635.448	1115.11
1028.37	4731.57	1361.015	853.825	185.006	1196.77	806.61	429.527	789.542	523.645	4597.155	243.14	3551.56	1722.107	507.343
1782.39	2201.62	4711.726	405.229	388.312	820.76	377.86	1134.641	1457.901	706.651	2015.225	109.04	5303.35	383.852	432.757

2585.93	3474.20	1733.487	769.396	441.83	1099.73	1176.32	1807.766	1252.134	368.627	1609.381	602.38	6583.31	410.15	2209.304
1093.12	2785.24	2713.418	1342.561	516.263	605.46	1581.08	859.669	1361.476	492.272	3179.7	118.72	3923.88	342.945	1641.522
901.81	3428.84	3185.852	2646.521	735.256	977.32	1033.76	951.019	807.228	1446.213	1802.845	980.70	615.763	386.928	1824.221
1333.64	3820.22	4769.858	1730.719	455.21	657.44	2490.73	420.146	1908.497	749.404	1109.266	764.63	636.678	540.254	903.499
2106.57	2190.24	4587.159	843.676	395.54	959.63	1736.41	853.518	1312.88	774.164	509.804	3398.85	1381.315	308.651	763.706
1150.94	1193.54	1617.532	2021.838	783.545	601.00	1413.92	2450.288	1429.143	1234.141	2084.429	1017.30	320.185	567.32	863.36
355.71	2887.51	1206.92	213.764	571.934	606.08	1561.40	1281.968	634.064	765.859	2724.491	4573.78	446.905	411.38	3639.985
737.72	2076.89	1777.47	2147.174	714.187	787.24	1880.35	852.595	1646.751	405.075	1394.233	1087.58	906.574	594.079	2907.497
1814.99	3022.84	3548.328	1003.922	877.816	490.43	1057.90	653.595	1037.447	402.614	2047.828	365.55	1015.609	569.473	3984.621
950.25	2610.84	3843.137	1489.273	1329.489	624.07	1229.84	1207.997	1919.108	636.371	1738.255	428.14	1403.46	657.439	6315.571
914.88	3625.84	2409.073	1391.772	294.963	622.22	1114.49	1085.582	2167.166	473.203	1830.681	381.08	869.512	1367.935	5779.931
837.22	3031.14	2347.712	477.355	620.838	1484.81	1307.81	1150.173	1948.943	703.729	2889.658	170.86	425.529	777.701	6148.251
611.00	6256.671	2807.997	1510.957	356.786	741.10	698.65	1123.414	903.345	727.413	1891.888	483.20	312.803	892.58	1340.1
1858.82	5510.035	3118.185	2278.97	325.106	620.22	1495.89	1424.375	1618.301	404.921	1966.474	2319.26	696.809	359.093	5673.972
2904.11	7176.009	1048.058	590.081	414.917	1176.78	2668.05	1643.522	685.582	1257.055	1445.444	2305.27	148.097	731.103	1995.694
2267.74	5299.039	870.127	1117.416	386.774	538.41	854.75	1489.889	1682.276	673.433	714.648	3535.26	313.725	479.508	928.105
562.86	3595.079	2114.879	704.498	349.097	1176.78	404.61	365.552	2447.982	1109.881	373.549	1954.17	1612.918	199.616	4835.371
1262.90	2469.358	1682.737	240.215	266.052	326.18	669.13	2099.039	1556.786	574.702	1675.663	947.64	662.976	1807.151	4036.601
1115.42	926.874	1708.266	790.004	294.81	1569.40	576.09	1802.23	569.166	810.458	1836.678	3874.20	895.348	902.268	1377.316
701.27	991.926	2224.529	475.817	323.26	2522.11	1055.75	1004.537	1547.405	555.94	1799.154	2963.94	693.118	255.594	841.984
328.49	752.172	1252.134	979.162	310.035	1386.39	401.54	479.508	1172.933	899.346	358.631	973.63	1877.432	670.358	762.476
637.14	1436.832	1490.965	272.203	195.463	739.87	903.81	615.302	1404.075	873.356	1208.151	1989.70	591.772	1436.217	4045.367
336.03	1762.092	4283.276	389.081	279.431	565.17	1628.60	765.552	1439.293	1455.44	1053.133	918.26	1161.861	758.17	3059.285
514.26	2216.993	2354.94	495.502	1359.17	545.94	1125.88	306.19	1496.809	1157.862	1456.517	1316.42	1066.205	852.441	1074.202
1485.28	3646.29	733.41	235.755	1620.915	537.18	479.82	229.604	939.946	1171.549	2107.958	1817.61	443.829	438.754	2802.153
215.92	2282.353	2180.546	403.691	838.293	818.76	711.73	670.819	1304.729	793.541	1003.46	1567.86	1763.014	379.854	1730.104
169.63	3103.268	2252.826	285.89	1436.371	1505.88	332.49	556.094	1646.136	1058.208	1345.021	3451.44	1283.814	1301.807	1497.116
1035.45	689.273	727.413	173.318	950.557	1298.89	1519.88	470.896	1362.707	1478.508	839.216	941.33	1324.106	569.166	3339.792
722.80	2918.57	415.532	1493.118	628.681	1167.24	1651.67	1377.624	897.962	302.345	1117.724	1598.46	584.083	1318.877	220.684
162.25	2963.014	520.877	538.408	362.168	1995.08	1590.62	1320.877	1929.412	1468.666	575.625	1183.08	1862.822	318.032	4822.76
787.85	4306.344	371.396	1133.103	846.597	1037.76	1269.51	346.943	1137.716	280.969	3333.487	840.29	1306.267	3648.904	2145.79
902.58	4227.451	804.306	473.972	1121.722	452.29	809.54	2142.099	1096.194	1786.082	801.692	1039.45	2473.972	289.12	3874.51
318.80	5660.592	2815.532	976.394	602.537	1109.11	761.25	1502.191	1137.409	1621.838	3296.578	1375.16	1324.721	2971.78	3528.643

1136.79	2011.226	276.663	288.351	564.245	1443.91	889.20	1733.795	1065.59	718.647	466.436	497.50	510.727	1939.1	4410.304
547.17	2217.455	517.339	453.518	1060.669	192.54	155.48	2865.513	948.251	497.193	530.258	1323.34	642.83	925.49	2438.601
319.72	1057.132	3190.311	648.981	532.718	985.62	311.11	2325.567	1096.04	408.612	525.952	126.87	327.566	825.375	6415.994
214.07	841.83	2418.762	1285.659	898.116	763.71	492.89	398.462	491.503	417.07	1009.612	1629.84	484.583	287.428	3770.857
935.79	2525.029	2225.144	816.455	857.824	1259.82	3977.55	2313.725	1190.311	177.778	1068.666	1339.02	737.409	2622.068	3449.289
620.99	2855.21	1416.071	945.944	688.043	1049.14	2077.36	3542.022	730.642	541.638	2424.913	1804.23	738.024	2902.884	2671.895
1204.46	1505.113	577.47	785.698	2092.58	795.23	2277.12	2500.269	614.225	959.631	2367.551	2687.58	334.179	228.681	3818.07
769.40	2711.88	1437.601	594.233	449.366	792.00	2021.22	3343.483	979.777	526.105	1422.53	2737.87	675.125	256.517	3217.839
778.16	919.954	1065.283	428.451	262.207	1413.30	1879.74	2484.275	1049.75	489.35	2836.448	933.18	1965.244	5492.042	4299.885
702.65	875.356	1088.966	417.224	2230.834	1727.34	1155.56	3538.485	1110.188	620.223	1393.925	1201.08	1032.526	1147.097	2828.297
469.36	409.381	1654.594	526.413	262.053	975.78	2404.46	2372.78	574.241	180.238	1870.511	1226.30	2561.63	2872.434	1133.872
970.70	292.964	1210.458	379.393	2420.761	1850.98	2862.75	3034.987	1247.059	1701.961	600.538	2454.13	1336.255	2308.651	2449.366
961.63	283.276	1281.353	427.067	335.102	696.96	2007.69	3362.707	785.39	1758.247	1221.992	2000.77	916.878	655.44	
201.00	468.589	991.619	575.317	375.24	1214.76	2141.48	6760.784	803.691	1616.148	5598.77	2408.30	1310.419	732.334	
153.94	732.795	1725.029	740.331	260.977	890.12	2504.27	3268.589	1900.5	325.721	1018.224	1953.25	2591.772	624.068	
313.88	1670.127	1467.743	420.146	2184.698	1447.44	2662.67	2297.885	1126.951	638.985	1205.536	1119.72	1751.173	175.317	
395.23	1553.249	1461.899	484.583	1379.008	1386.39	2971.01	4207.151	456.286	433.679	902.268	818.45	539.023	246.213	
948.56	1344.098	1265.821	1267.666	2588.082	962.71	2069.36	3910.035	401.999	1473.741	3284.583	2273.90	1986.621	465.359	
283.58	944.867	1861.13	596.694	1020.377	1193.08	1797.62	4223.606	344.637	1204.921	1147.712	2277.28	2809.996	506.882	
422.30	321.569	3656.747	727.413	1114.802	1320.11	1745.02	1150.019	1156.324	779.546	1403.306	2354.02	511.188	670.204	
523.18	1401.307	2269.742	1253.21	1099.116	1011.00	2366.63	781.853	1270.281	1633.064	192.849	3399.46	320.031	392.157	
817.53	1103.576	1606.151	334.794	1655.978	3377.47	2621.61	5091.888	1402.999	493.656	1116.186	866.28	1387.62	607.305	
863.05	2110.111	2489.043	511.803	2287.889	988.08	1582.01	4838.754	915.186	433.679	938.101	547.02	627.451	610.996	
773.86	1094.656	922.414	338.947	1551.557	889.35	2252.67	5678.893	759.246	0.154	1050.058	547.48	793.849	531.949	
1030.37	802.461	1332.103	477.816	3224.913	919.49	2218.99	4496.578	808.458	1673.203	3229.22	448.75	758.324	705.267	
1208.46	648.674	406.151	1053.902	330.642	1030.53	2014.30	3709.343	400.769	1182.314	927.182	1348.10	257.286	552.557	
241.45	363.706	2790.927	569.012	1965.552	2062.13	2522.26	4655.748	767.243	850.75	194.387	225.14	636.524	276.817	

PEG group

1757.32	2850.14	4418.454	406.767	318.954	97.19	1798.23	717.109	627.759	342.176	2299.27	4328.18	214.533	1447.29	859.977
4562.55	3856.36	3238.447	375.394	4071.819	1773.63	848.29	733.256	488.12	780.469	2580.39	2392.31	216.532	1256.132	1463.283
2855.06	3192.31	4211.611	258.208	2299.116	896.73	3619.84	800.923	546.098	278.97	1842.22	1446.67	602.076	1617.839	724.491
4668.05	2080.43	4464.591	339.715	692.503	78.28	1706.57	956.248	302.499	674.971	445.37	3868.05	567.628	1398.539	1982.622
1334.26	2097.50	4959.785	238.677	856.44	812.76	2033.22	1216.301	300.346	580.085	3172.78	2989.47	288.043	1753.479	1808.997
5069.28	5570.63	3906.498	195.771	639.139	2199.00	1350.71	1027.297	569.473	385.083	270.67	2340.33	876.432	501.038	698.654
6457.36	2202.38	2301.269	124.106	6171.011	2101.19	1845.75	308.035	342.484	760.784	4179.93	1809.00	288.043	1832.834	389.081
4803.08	2483.66	3526.951	270.973	2728.95	3174.16	1746.56	337.101	1711.188	243.906	1207.69	2061.52	1122.491	1801.615	234.679
6639.60	3632.76	2918.416	128.412	240.984	1191.54	4059.36	1175.24	1251.826	1614.302	4031.83	3813.15	657.132	1955.402	216.532
1804.38	3554.33	1772.241	170.088	266.974	2195.31	1538.79	1091.119	860.9	1132.18	398.62	3409.77	594.387	1688.581	3758.862
3456.67	3594.77	2562.092	651.903	220.992	340.64	1863.44	1368.397	418.454	241.907	1219.22	2059.98	625.298	642.522	2214.994
4330.95	3570.78	4330.181	447.674	183.929	2037.83	4278.66	1417.301	772.011	360.015	2633.30	2125.34	1231.373	662.361	1992.926
2820.45	4654.06	3962.168	614.84	303.422	1586.31	1379.16	1816.84	1084.506	3865.898	1115.42	3073.43	748.02	945.944	2259.285
5124.18	2696.81	3080.046	648.058	108.112	128.72	2752.94	270.665	990.388	700.961	292.66	1985.544	545.021	1001.307	1552.172
3429.91	4615.76	2185.467	0	250.058	817.99	1231.07	1120.031	1655.056	393.695	297.58	1920.031	1036.832	727.72	2961.169
1774.39	3906.50	2738.331	307.882	247.751	1265.51	2859.98	343.56	745.252	146.405	2271.90	123.491	2728.95	413.379	1950.327
443.83	4576.86	2835.525	492.887	302.191	788.01	2799.23	622.068	535.179	366.936	944.87	1804.844	192.388	1059.285	2585.621
284.66	587.62	3138.485	329.566	159.785	1488.20	1631.07	752.787	218.224	223.453	179.16	1274.125	152.095	465.821	1786.082
1015.61	801.23	4026.451	128.258	833.372	427.68	2726.64	830.911	409.842	355.863	1463.28	1644.906	584.852	1460.361	3365.936
2734.49	277.432	3747.328	87.659	221.607	2871.82	1341.02	566.09	1594.002	200.077	1667.51	161.63	1752.095	3091.888	3118.032
2752.02	175.779	2917.032	205.306	181.161	1268.90	5675.36	627.297	270.511	736.486	386.16	1460.515	1645.982	1194.156	1300.73
602.23	258.362	2321.415	283.737	777.855	1597.23	2311.42	1187.082	221.761	549.481	1089.89	1788.85	2530.258	1594.617	1728.412
3080.97	134.102	3471.28	1800.692	976.24	639.91	2581.01	537.332	553.479	268.666	1803.77	1144.329	2596.386	1192.003	834.602
1111.57	468.743	1817.762	931.334	568.858	2704.19	4900.12	1103.114	640.215	177.932	887.20	935.333	2327.259	402.153	429.527
981.32	836.601	2844.752	680.661	361.246	1984.62	4661.59	600.231	1391.465	145.329	3051.90	331.257	2940.1	284.814	377.086
1925.26	604.537	3699.346	930.258	405.536	3454.67	4330.33	1988.62	841.061	2119.339	1371.32	1249.366	2525.49	315.725	639.6
510.27	1299.193	2694.963	339.715	186.39	2969.32	3958.79	2021.992	2687.889	2165.013	3733.80	371.396	2517.647	1245.213	853.825
1666.28	2274.048	3164.475	232.372	436.755	4922.88	5359.79	1075.433	1954.479	3004.229	1807.46	97.347	1956.478	1779.931	391.696
2708.19	1510.804	513.033	155.479	151.48	3011.92	4019.38	2241.446	334.333	2388.927	2220.07	1121.261	1606.92	819.992	300.346
5967.24	1583.545	419.223	227.605	204.383	2813.07	2397.39	1581.392	2893.656	2273.587	895.04	2257.747	2350.019	401.23	666.359

1812.84	990.542	2319.877	281.276	400.461	4420.61	1037.14	3201.692	3416.993	2217.455	581.01	1159.708	680.815	419.377	299.116
2223.91	2242.676	2142.099	208.535	255.594	4278.35	1932.795	742.33	3221.376	1901.73	328.34	62.284	4030.142	223.299	405.998
2884.12	1423.453	3413.61	220.069	1330.565	3705.65	714.187	1451.749	983.622	2155.94	1322.41	143.637	4313.11	2451.672	623.145
2501.04	1069.281	422.914	248.674	1209.381	4083.81	950.865	959.323	547.02	2669.589	282.20	1711.957	3805.152	2918.108	520.415
1840.83	1719.8	1171.088	243.906	1317.955	2012.30	115.955	836.909	244.06	1605.075	575.47	1300.884	2466.128	581.315	419.07
757.71	2223.299	1410.227	291.888	1182.468	2165.94	140.869	1312.111	460.9	1030.988	1084.81	1214.61	3507.266	4250.058	297.116
1428.68	1700.423	1047.751	421.223	173.472	1545.56	167.628	388.466	569.935	1358.093	1791.77	1575.087	757.247	1399.154	599.308
1746.41	2392.464	1207.382	367.705	210.073	3152.63	68.589	476.894	487.966	966.705	1485.89	2019.839	1657.978	900.423	758.478
2023.07	1479.739	1282.891	493.81	288.197	883.20	1694.118	522.414	504.883	614.379	637.76	686.813	3484.352	945.483	463.514
1682.58	470.281	1567.09	797.386	383.699	2019.07	1820.838	304.498	1191.234	1767.474	2644.37	2195.002	866.128	926.567	476.125
3203.69	1456.671	297.885	526.874	207.612	3422.68	472.895	243.599	668.666	941.176	1035.91	1966.474	3446.213	407.997	558.554
1811.15	458.747	914.264	276.817	166.705	2645.14	1533.872	2359.862	109.958	2527.182	2425.07	2662.822	404.767	753.403	442.753
3194.46	252.364	1284.275	1739.485	347.405	2370.17	894.887	923.03	1276.894	1673.972	641.45	4827.682	3259.823	732.488	901.038
2471.82	146.251	614.687	1418.531	259.285	3727.03	711.572	2055.671	1004.691	323.875	2401.85	2191.772	197.616	212.226	770.473
2758.94	219.146	716.955	255.133	356.632	1231.99	905.19	399.077	619.454	518.724	1093.58	1541.1	1699.193	335.409	548.251
2881.66	206.075	967.782	401.692	345.406	437.37	3225.529	626.221	1393.156	169.012	2226.68	2168.858	531.18	716.34	764.014
3211.84	73.664	793.08	859.669	3214.148	1862.21	4024.298	1206.305	357.862	264.052	444.14	2758.785	244.983	410.304	589.927
2903.04	183.929	547.482	559.785	361.092	2757.09	1435.448	2998.693	858.9	238.524	3188.16	330.95	108.266	503.037	664.514
2874.43	288.351	125.336	1027.759	1904.498	3900.19	523.491	891.503	1077.893	275.74	1855.13	602.076	84.429	379.393	960.4
2665.59	195.002	2635.602	1167.09	1162.784	176.39	541.945	1590.004	707.266	308.958	1057.90	717.57	78.585	1295.809	250.98
1342.87	145.944	1149.712	2164.398	1210.15	2096.89	256.517	2167.013	306.19	276.97	8252.52	1347.02	137.332	394.617	983.16
1597.23	137.024	1212.303	332.488	1484.352	3126.34	321.415	1386.236	256.978	295.886	2364.78	1110.804	110.419	1543.406	1413.303
1482.97	230.681	470.127	499.5	268.051	5099.89	280.354	613.456	239.293	154.71	2960.25	962.245	305.113	3156.171	3026.067
1313.19	196.694	1535.102	686.044	3170.319	1923.72	150.25	1277.816	358.785	518.57	4386.16	568.089	118.416	2205.921	1821.915
385.70	212.995	1208.612	1578.777	3005.306	2031.07	35.679	1231.219	2405.229	278.97	3549.25	5123.875	411.995	1730.873	2218.378
1895.12	451.826	1716.571	1193.849	1988.466	2400.15	134.717	865.975	1641.215	208.843	2873.05	2644.675	2392.618	1515.417	1433.91
1993.54	397.232	849.827	2599.462	549.481	1546.48	1258.747	1193.695	1503.114	472.434	3656.75	2839.369	1821.915	2821.376	2744.022
1281.51	225.298	439.216	1902.807	912.726	950.56	1389.004	1223.529	1045.598	765.09	2230.99	1002.537	2776.471	2948.558	3822.991
1832.07	365.398	736.486	1592.003	627.61	726.18	1119.569	253.441	1706.267	607.92	745.10	4382.93	2837.832	2884.121	1501.576
1939.25	403.691	1123.568	495.502	1359.63	418.92	306.498	691.888	845.829	4790.619	741.56	3132.795	2394.31	2309.881	2160.092
1834.06	191.465	1589.081	340.331	2066.44	596.39	184.544	559.016	1597.539	2551.326	899.65	1080.2	1638.447	3030.219	1253.825
1484.20	91.196	750.019	458.593	2802.77	3462.36	266.205	2089.35	1269.358	3210.15	1699.04	1130.334	1355.325	2444.752	2970.088
587.47	95.809	1277.816	350.327	1329.34	1478.35	534.871	826.451	301.884	1572.011	1849.29	1602.922	765.705	879.508	3643.829

2350.33	171.934	1261.822	716.186	1032.07	2208.84	556.555	486.582	488.735	1865.744	1144.79	1612.918	2545.79	406.767	3309.496
3090.81	166.398	823.376	644.214	2503.50	772.63	716.032	845.367	1518.032	1399	308.19	863.053	2050.75	2325.721	1826.221
2107.65	119.646	1331.334	913.649	1200.77	1801.62	1391.465	1827.912	926.567	953.941	1609.69	675.586	2793.541	1122.03	2125.49
2025.53	187.159	322.03	1385.467	1159.25	1982.16	982.391	3275.509	1700.577	686.967	892.27	1213.072	1258.9	3778.239	1936.332
1880.66	845.521	523.337	541.33	765.09	2607.46	993.003	1588.158	340.331	2303.576	678.97	465.821	378.931	2182.391	3494.963
1886.66	181.161	642.215	690.196	784.01	1639.83	1160.169	2983.468	1088.812	2047.828	2561.78	579.623	1105.113	2933.026	3688.428
971.47	341.1	1547.405	546.867	985.78	3694.43	961.015	2383.699	512.418	1367.32	1777.01	411.534	562.399	2860.131	2747.559
2155.48	219.146	942.714	721.876	1433.76	2217.92	711.88	1656.747	2738.947	1212.918	1051.75	670.358	458.439	807.228	1762.399
2577.16	222.068	605.459	288.197	2441.83	1734.87	646.674	1397.309	2669.127	1269.973	889.04	313.264	2823.837	1068.205	2236.371
1559.09	439.062	1196.77	1932.026	3197.54	1325.95	515.648	1024.683	1912.649	3206.459	2003.08	535.948	1511.726	1835.14	1192.464
2181.93	277.432	392.926	2448.597	1816.23	209.00	630.681	1319.646	386.467	3299.193	772.93	830.604	2086.121	4075.509	2184.852
1594.00	300.038	341.407	1433.449	1922.65	1716.26	580.392	1306.267	1642.138	1373.318	6086.74	529.335	1864.052	867.512	4285.89
2350.02	220.223	980.7	1338.716	2132.10	1324.88	488.12	1040.83	1898.193	2017.686	7012.69	263.437	2047.213	524.414	3701.653
1284.43	525.183	703.729	501.961	1258.59	1134.95	602.076	1611.688	1742.561	2798.001	6306.04	1688.274	1663.975	501.653	2024.913
1600.46	414.917	804.306	638.37	591.47	1016.84	2355.094	620.377	1903.114	1651.519	5542.18	1115.11	1311.034	465.667	961.938
1705.04	699.577	692.195	770.934	1207.84	2428.91	2021.376	1154.94	1870.204	2965.782	4868.28	426.605	905.19	612.534	3733.948
1215.07	236.524	158.554	2082.122	1289.04	1866.51	370.165	1638.754	1731.334	3469.90	5856.67	450.135	1706.728	489.35	3174.164
2203.77	227.297	312.803	3207.382	1460.67	1563.40	176.855	1635.371	1359.17	1010.38	5104.65	711.265	1352.864	993.618	2810.15
1293.20	157.939	461.207	616.071	2527.03	1435.14	1242.445	451.211	310.342	1104.50	5197.08	1747.943	1748.866	1267.666	3245.213
4116.26	368.474	376.009	1446.521	2328.64	1669.51	393.08	524.106	163.168	1581.24	4280.82	634.371	1576.471	1160.323	4132.103
3436.06	352.018	219.146	965.782	706.04	1393.93	984.698	535.486	269.127	2647.29	4666.36	734.333	1710.265	442.599	
1184.31	270.358	378.162	1083.737	366.17	2421.84	1152.634	772.933	1803.614	1522.34	4234.99	353.403	1029.758	1062.514	
1729.80	621.607	698.654	1617.839	2189.62	1449.75	1029.143	1374.087	1620.915	5019.15	6607.92	583.007	961.784	1535.871	
1810.53	237.601	726.336	535.948	2396.00	2079.51	1000.538	1288.889	906.574	1540.64	3435.14	668.512	544.098	685.121	
3779.47	760.015	424.76	214.84	1860.52	2176.09	322.491	267.589	902.268	471.36	4589.47	382.93	256.363	2445.213	
1301.35	218.07	820.761	380.623	4563.94	2360.17	1086.351	1319.954	2055.825	643.75	5979.55	715.725	567.935	1906.19	
1723.95	217.762	694.195	276.97	2246.37	2215.92	1186.313	725.26	1711.034	2126.72	293.12	374.779	317.109	331.103	
942.56	5107.42	253.749	289.273	769.09	1141.10	1291.349	557.324	243.752	4541.79	3983.39	772.165	84.275	777.086	
3504.34	4113.649	224.221	277.278	1898.04	1771.01	440.6	1305.498	394.617	3109.73	2811.69	466.897	151.942	2107.343	

MSC group

1095.12	546.71	4476.125	1381.469	2388.158	5989.235	859.82	1188.312	2358.939	3639.831	5159.25	6128.57	3981.546	4678.201	4205.459
756.63	1409.15	2642.061	1355.479	3495.117	7257.67	2043.83	1021.761	644.521	5980.161	5627.53	6805.23	1232.91	1006.382	3794.848
633.14	2771.24	1931.411	5484.967	3441.753	5594.617	935.95	1092.81	7154.479	5094.656	4437.37	6600.23	3383.622	1223.991	3623.376
1718.42	788.77	3220.3	2891.965	2526.259	4144.41	1797.31	1573.549	4013.533	3418.378	5238.60	4281.43	672.664	1166.013	2510.573
687.12	212.23	2716.34	1892.349	2412.457	3642.75	1931.57	1022.222	6385.236	4298.039	5162.48	3822.84	348.174	2449.673	3523.106
1215.53	5474.66	2024.145	1751.173	2273.895	2625.91	806.00	640.369	4223.914	4685.121	5294.73	5159.25	177.163	1833.141	2800.769
1324.26	7236.14	1929.104	1710.419	1702.576	3997.23	2581.47	423.529	4888.428	3333.026	6896.58	5627.53	672.357	2800.154	2489.043
466.13	8989.31	2153.787	953.941	2328.335	2692.66	575.01	526.72	3123.722	5750.711	6390.93	4437.37	1144.944	4034.448	2257.439
396.31	2992.39	1671.511	1543.406	2886.121	3468.21	922.26	526.105	4088.735	4214.379	5377.62	5238.60	3677.047	2301.269	2405.844
452.13	2821.53	707.728	761.553	3453.133	3083.12	1466.51	495.502	6320.953	4742.33	5630.30	5162.48	1090.965	1090.504	2055.825
313.42	3174.01	963.476	2584.698	1043.445	3649.83	2301.42	1415.302	4830.296	7228.758	4403.69	5294.73	4933.641	624.683	2356.786
352.17	1618.15	2331.872	1446.521	3078.047	3418.69	1302.42	764.783	4545.944	10628.681	5215.38	6896.58	695.886	2288.812	1686.89
237.29	973.63	2024.145	1188.158	500.269	2368.32	477.05	450.596	5156.632	1708.881	5756.56	6390.93	2741.407	2216.532	2562.245
429.84	971.93	1873.895	2704.652	1662.13	4844.14	1979.09	1408.074	4862.591	4793.541	5054.67	5377.62	1887.428	3301.807	980.238
574.86	830.91	712.034	1157.247	818.454	4124.26	2033.22	654.056	4412.303	7039.754	4706.96	5630.30	977.47	1247.213	2793.695
373.86	2536.87	3072.972	1966.321	2301.884	4104.88	703.73	445.367	5247.674	5868.512	4390.31	4403.69	1801.307	1910.188	2350.327
330.33	6070.43	1042.061	742.637	931.949	3336.56	2025.84	681.738	5150.019	4501.499	4313.11	5215.38	2421.992	1506.651	2183.16
304.96	6455.21	1426.682	778.008	1570.165	4961.78	797.08	1515.417	4846.29	4936.101	3630.30	5756.56	1721.184	2083.199	3006.382
341.41	1514.49	2103.191	1226.913	1863.591	4308.34	4490.58	1266.897	5661.053	4870.742	5582.93	5054.67	1425.759	2075.048	2203.306
275.28	2714.34	1549.558	3377.163	50.903	2565.78	1109.57	716.494	2718.339	7010.842	6811.84	4706.96	1057.901	1129.412	1864.514
207.31	9977.86	1715.802	4299.885	2691.426	5205.38	1172.93	393.541	7374.856	6493.656	4533.95	4390.31	2214.225	2941.484	2358.324
195.31	2103.81	1436.678	3639.985	1240.907	4436.14	1441.29	738.485	5970.012	7639.677	5854.83	4313.11	1843.599	1310.573	217.762
1998.46	6360.48	1794.848	3595.386	3983.083	3964.48	1729.64	657.439	4790.927	4635.14	5935.26	3630.30	2298.501	1930.027	1429.912
1278.74	7702.12	2369.858	2369.243	1371.165	3394.69	1873.90	1256.286	5775.163	4495.04	4326.80	5582.93	842.599	1377.624	436.909
874.59	5232.60	2149.942	2785.544	2145.175	3965.55	1021.15	494.271	2090.119	6921.492	5784.85	6811.84	1248.289	3557.401	700.192
964.09	5210.15	1566.474	2750.327	1815.763	4101.19	1163.55	1118.032	1701.499	1881.12	4729.72	4533.95	1702.73	4477.201	6178.239
778.16	1037.45	1810.842	2648.981	2824.606	3331.64	1150.63	381.392	6543.329	2095.66	5011.92	5854.83	709.112	643.599	7176.932
608.69	903.19	938.562	947.943	151.788	5022.53	599.00	540.408	4649.75	1075.13	5610.00	5935.26	701.576	400.769	4520.108
433.99	2586.54	2380.469	4308.651	2474.279	4977.01	598.23	897.347	3725.49	941.33	2736.18	4326.80	1240.292	1307.497	2085.198
749.56	2500.27	3143.099	4364.168	1033.91	2634.83	834.45	659.131	3582.776	1472.05	6156.86	5784.85	1145.098	688.966	3478.047

674.36	4914.57	3070.973	7858.824	921.799	4166.86	1309.65	533.026	5500.038	699.12	1881.12	4729.72	1319.954	705.113	3150.327
480.43	1610.61	1250.903	10020.607	619.762	4453.67	1389.93	661.284	2689.889	1670.43	2095.66	5011.92	2602.384	1830.527	3231.526
511.34	508.57	2355.094	8037.832	447.828	5701.04	3304.88	466.59	1469.281	1250.75	1075.13	5610.00	839.216	715.725	910.727
532.41	314.80	910.265	7424.068	1938.024	3671.82	2023.84	422.453	2295.732	1518.95	941.33	2736.18	1794.848	797.693	611.765
370.32	305.88	3965.552	1887.428	2046.597	1960.17	1165.55	858.9	3094.041	2090.27	1472.05	6156.86	2244.675	1004.998	5127.105
102.58	6123.03	1070.819	1713.956	781.238	6934.10	2297.58	651.288	4689.427	647.75	699.12	2915.033	5215.225	1126.49	3087.582
294.50	6791.70	2833.833	3122.338	4076.125	5815.61	1087.89	422.76	3104.344	240.52	1670.43	977.932	3352.095	2180.238	3001.615
484.28	5140.64	2490.273	4320.8	933.641	4882.89	1130.03	712.803	3474.817	1570.17	1250.75	1395.156	1481.892	1753.172	2047.982
278.97	11996.77	1523.26	562.245	641.292	5599.85	1429.60	472.587	5734.717	1249.06	1518.95	2062.745	3788.543	2839.062	2204.691
199.77	7445.44	2800.461	2548.097	3242.753	4825.07	3128.80	582.238	2582.699	1413.46	2090.27	4304.344	1623.991	314.341	3037.447
565.78	5966.94	2606.075	7840.677	1234.602	5773.47	890.89	999.308	6053.364	691.12	647.75	4624.529	3880.354	1202.922	1122.338
479.51	7124.34	2508.727	4699.423	1777.163	5189.24	3293.04	308.651	5822.837	1395.46	240.52	1144.175	926.105	1026.528	1266.744
590.08	6686.66	985.775	1350.25	2328.489	5195.54	4182.85	541.023	4346.021	1728.26	1570.17	854.133	2648.827	987.928	4832.603
532.56	7611.23	2121.03	3295.809	444.444	3223.22	4509.34	685.121	2501.961	1089.58	1249.06	920.108	2863.975	1718.877	1779.469
671.74	1170.93	2276.355	633.91	1215.994	6252.06	6223.91	422.299	3769.781	373.40	1413.46	535.794	1092.349	1291.349	2621.3
411.07	1235.83	2236.832	838.908	1429.912	6292.35	5706.88	1302.268	4861.361	1018.84	691.12	2109.958	1329.642	1165.705	1124.029
422.30	4842.91	6287.274	2054.133	1742.253	1815.92	4464.59	604.537	4353.864	394.62	1395.46	3198.001	2798.616	189.773	3872.818
2189.31	2312.03	1764.245	5675.048	2500.269	1107.57	4265.44	730.334	7017.762	941.64	1728.26	4177.778	2265.283	734.794	3936.332
363.55	4673.13	1284.89	2677.278	3169.396	1397.77	4001.69	559.785	6714.802	473.36	1089.58	3752.864	1257.824	253.441	4287.274
590.08	2634.06	1670.896	929.335	3210.458	1977.70	4911.03	1448.827	3064.821	1463.44	373.40	794.464	1696.117	1701.192	2391.234
374.63	3253.06	3610.15	1438.37	1879.431	1720.42	5931.41	601.307	4220.069	249.90	1018.84	1133.564	3362.245	863.36	2777.855
278.97	5235.06	2332.18	3014.379	566.551	481.20	6903.04	459.823	3910.035	2834.14	394.62	2929.642	2881.2	6376.932	2064.283
494.12	5559.25	2974.856	1076.663	144.56	509.34	4532.10	710.342	4552.71	2393.23	941.64	1318.877	1362.245	777.24	3828.066
440.91	2746.94	3719.646	1665.667	1603.998	891.20	4355.25	986.082	5737.947	1561.86	473.36	2512.418	2477.509	653.133	1936.64
322.03	5201.54	2637.601	481.661	3703.191	1009.00	4825.99	569.935	4585.313	4001.69	1463.44	948.251	2640.369	300.346	3055.44
546.87	4015.84	3025.144	2801.692	1327.336	736.49	3427.91	652.98	3462.053	2612.38	249.90	2838.754	970.396	303.883	2377.24
318.49	3926.49	2897.04	1055.286	937.639	890.27	2667.44	1097.116	5879.585	3123.88	2834.14	1909.266	1465.436	4167.782	1435.755
485.35	5419.15	1027.451	1705.19	3316.571	1086.04	4717.88	4296.809	4452.134	2983.93	2393.23	568.243	1009.15	940.715	2228.374
322.18	3064.05	2781.853	3589.85	777.393	1032.37	5339.02	2039.369	6388.927	1175.70	1561.86	669.896	551.173	733.564	2835.371
168.86	3999.08	4385.236	5530.95	4107.036	1124.34	5291.66	1575.855	5897.578	4176.70	4001.69	1288.889	718.185	790.465	3178.777
439.37	3614.46	1558.785	1338.716	5259.516	2136.87	3619.38	1217.224	3014.072	3297.96	2612.38	2811.226	5204.152	1015.917	2753.556
334.18	3731.18	3121.107	3262.745	460.746	3156.94	5651.83	1433.602	2506.113	2608.23	3123.88	1068.051	933.795	1330.565	2530.411
460.44	4996.39	1241.061	1548.02	474.125	1184.62	5415.61	1864.514	1917.878	3145.71	2983.93	899.039	1533.103	688.351	1366.705

567.94	5187.08	736.025	533.026	489.196	526.41	4720.19	1827.451	2677.739	1937.10	1175.70	509.189	2194.079	743.253	2734.641
612.07	2565.63	2636.371	6597.616	875.356	1633.37	3627.53	3311.342	1055.133	3319.19	4176.70	955.786	1323.337	199.923	2495.04
1196.16	4349.71	2085.659	2917.955	2379.085	3044.68	3832.22	3719.493	3708.881	5192.00	3297.96	1044.983	2853.979	308.497	2507.19
441.83	5625.99	1610.765	436.294	6659.746	2913.50	3935.10	2198.385	6018.916	4740.95	2608.23	1748.866	1249.673	559.17	2105.344
423.68	5166.63	1802.384	883.506	1920.031	6105.65	3706.88	2186.697	6145.021	3936.64	3145.71	1534.948	1947.559	205.921	1709.65
1343.79	2305.88	2315.263	3898.039	1031.757	3486.81	5258.13	1945.713	3620.761	3958.94	1937.10	1613.687	1552.326	1638.293	4553.172
190.85	4578.70	2946.867	405.69	841.369	3557.25	4225.14	915.033	1688.12	3234.14	3319.19	4736.025	1590.927	214.379	4558.093
158.09	5467.59	2585.006	112.265	5406.228	4738.18	4725.26	1118.493	2728.028	3664.28	5192.00	1971.242	1459.285	738.485	3182.93
152.71	5985.54	3344.714	9612.918	553.018	3569.24	5202.31	565.167	5158.939	5170.17	4740.95	3416.84	3262.284	1023.453	1345.483
254.98	4535.79	2417.532	10690.042	688.197	2067.51	3278.74	1615.686	5819.608	4267.13	3936.64	2031.988	1132.026	648.212	2423.837
358.94	6125.34	2742.022	8510.727	217.455	3974.93	3441.14	5307.343	5864.975	4373.40	3958.94	2507.958	440.292	233.449	2929.027
747.25	3759.32	3160.631	6438.908	131.642	4585.47	4485.04	3524.952	8693.426	1783.93	3234.14	863.975	477.97	416.455	3926.49
694.81	3171.55	1255.056	2477.509	185.467	631.14	5562.02	5708.727	4374.779	2699.27	3664.28	1273.049	1122.491	11033.295	1914.494
871.82	2098.73	3527.72	145.636	1259.362	484.74	3578.47	2472.895	5070.819	3265.82	5170.17	1146.943	1507.42	6721.876	2654.671
618.22	2946.71	734.025	195.156	1536.178	717.26	4358.02	5628.297	2935.64	2600.08	4267.13	1202.614	1605.69	1601.23	602.076
471.97	2784.62	538.255	550.404	3768.089	512.27	4289.43	7854.364	4481.353	3522.03	4373.40	1449.904	2839.062	2727.105	414.61
304.34	3293.81	2268.512	832.91	962.092	563.48	3562.78	8337.101	3914.341	5278.74	1783.93	1649.981	1959.554	434.295	711.419
185.93	3345.18	817.07	422.145	334.948	828.45	5741.79	2227.759	5692.272	3505.58	2699.27	2449.212	1546.328	3210.15	370.473
325.41	2975.01	1863.283	405.075	194.387	744.48	5459.29	3171.703	2678.201	3655.52	3265.82	2103.652	4129.335	977.316	388.62
503.81	6952.56	956.094	1206.151	738.024	781.85	5770.70	1688.12	5561.246	3518.80	2600.08	1492.81	1268.435	7802.845	787.082
626.68	4672.51	256.209	812.918	1257.209	330.18	3707.036	2083.506	4831.373	5247.67	3522.03	1697.193	4524.414	925.029	650.211
355.09	7910.50	1107.882	2781.392	807.843	556.71	3088.504	1947.866	3713.956	3910.19	5278.74	1264.744	1298.116	1549.404	665.59
599.46	2989.00	403.537	17036.832	562.86	694.96	2107.958	928.566	4356.632	4446.60	3505.58	779.7	3112.649	688.043	451.211
561.78	4516.57	923.491	2614.687	524.106	449.21	863.975	2411.688	3587.697	3934.64	3655.52	2165.936	771.088	822.76	1197.232
879.51	4618.22	3223.837	953.479	454.748	403.54	2801.999	2091.965	3934.948	3371.93	3518.80	1049.904	340.177	9765.475	1261.207
547.33	4135.79	5098.347	605.152	441.061	706.50	965.936	5776.394	2798.616	3509.11	5247.67	1796.694	2336.794	1291.503	195.463
290.35	4083.66	3218.147	2859.516	5469.589	1313.80	4125.183	4071.972	3324.26	3693.96	3910.19	2797.078	2642.676	2541.792	1960.938
302.35	3182.47	3664.437	4143.945	4165.629	451.37	1403.153	2113.956	4631.142	1734.41	4446.60	1375.932	5366.705	1431.603	799.231
978.70	4329.26	3742.714	1783.622	827.682	794.77	3054.056	2418.454	4236.217	6024.15	3934.64	1992.464	1413.456	853.672	585.775
282.20	2153.02	4479.969	780.777	1426.067	1125.26	1538.024	5385.467	4142.099	4505.65	3371.93	2389.542	877.355	3963.399	2992.695
1334.10	2943.329	6417.993	728.181	541.945	657.90	916.109	4930.411	5030.219	4062.59	3509.11	1992.772	1121.107	2750.173	3001.922
547.94	2690.811	3359.938	2701.423	527.643	240.98	1273.203	2951.326	3558.478	3401.00	3693.96	1878.508	963.629	1007.459	2399.846
918.26	1677.816	1146.636	1104.806	2661.13	431.37	1167.551	3996.002	6960.4	2862.59	1734.41	1669.204	696.655	1351.019	3878.047

531.03	4911.649	642.061	918.108	6481.661	343.41	1011.15	2046.905	5367.935	4055.83	6024.15	1711.803	823.991	699.116	2015.994
308.50	2512.111	2953.633	916.109	2039.216	867.82	345.406	7500.961	3358.401	6323.11	4505.65	2224.529	1212.764	3267.205	6134.102
512.27	3279.2	1206.459	1775.932	602.845	502.58	331.719	1761.784	2566.09	5068.36	4062.59	2492.272	624.99	4244.214	8252.672
340.79	2931.949	1292.272	5874.817	367.705	345.25	1340.1	5864.514	3233.372	5959.40	3401.00	2408.92	889.043	639.293	3644.752
260.98	2788.62	1891.734	2741.1	3269.666	484.58	1235.832	3609.381	1925.721	7087.89	2862.59	1922.491	799.231	1022.684	2567.32
229.76	3786.544	3589.85	11533.103	840.138	644.52	1382.391	5311.342	2684.66	4865.21	4055.83	1750.711	603.46	806.767	3630.757
503.50	597.463	3917.724	900.73	609.458	562.09	1689.965	6658.516	4768.935	3590.16	6323.11	4573.472	917.339	2044.291	5998.923
1624.45	940.254	5092.195	4515.34	2276.048	439.22	1059.746	5441.907	3565.09	6119.03	5068.36	1496.963	708.343	621.607	6225.452
450.29	3055.44	3699.808	896.271	1116.955	720.95	657.593	1315.033	2857.209	5026.84	5959.40	3127.566	1353.479	513.802	5883.737
351.56	1139.562	2538.562	2066.436	2617.762	800.62	644.983	2323.26	2771.857	6433.68	7087.89	3084.814	953.479	839.985	378.931
275.28	614.379	2229.296	1022.376	1176.932	1007.92	915.186	2143.176	5198.001	4943.79	4865.21	3997.539	1971.396	1203.998	460.592
590.24	855.671	2239.139	264.821	995.925	331.72	1104.344	1407.305	4742.637	6929.18	3590.16	8017.532	2465.052	1108.035	1046.828
1489.12	604.691	1684.275	796.463	3207.689	244.83	362.168	3718.57	4670.819	5020.99	6119.03	2522.414	1947.251	337.255	611.918
1627.99	4076.432	2393.233	119.031	2570.704	544.25	1120.031	1502.499	3225.529	4505.65	5026.84	3217.686	1399.308	3260.9	3822.376
643.91	2448.443	2480.431	253.902	3079.585	605.77	1740.715	2716.032	5077.432	3591.08	6433.68	1125.26	828.297	854.287	556.709
448.14	3502.96	1056.978	247.29	3775.01	1709.50	2895.194	3487.889	3557.709	6604.54	4943.79	2109.958	1559.862	412.149	907.497
715.42	3489.273	1491.58	146.405	6720.646	1065.28	1771.165	768.32	4193.156	4892.27	6929.18	1651.365	1339.023	679.277	1281.2
429.53	4726.336	3402.999	454.441	3798.078	1212.15	2840.754	5105.882	5411.765	4928.72	5020.99	1652.288	1333.795	548.712	6355.709
618.22	870.588	1541.253	287.735	6330.334	1778.85	598.539	1799.308	3194.617	3538.02	4505.65	1191.08	425.067	421.838	5066.82
428.91	1747.02	1271.511	272.049	5568.935	859.52	844.906	1249.519	3199.231	5614.92	3591.08	1563.091	748.943	2461.822	4918.108
598.54	754.171	1653.672	236.678	7010.842	626.53	1780.238	1248.75	4996.694	5401.92	6604.54	4605.613	1130.027	414.456	6142.253
511.03	3209.535	1053.902	155.632	8003.383	6741.56	2220.223	2753.249	4126.874	7379.62	4892.27	1034.371	905.344	334.948	5048.366
171.63	2917.339	1103.883	98.424	5897.116	1038.83	3761.169	2871.972	3287.505	5859.29	4928.72	2183.314	1004.383	228.527	4282.507
418.92	1681.815	1177.701	173.626	3136.794	802.46	2540.869	4707.882	5304.729	6948.25	3538.02	1777.932	4649.443	486.582	3184.621
368.32	2613.764	1365.475	325.106	4117.186	513.19	1976.778	4653.749	3439.139	4221.76	5614.92	456.747	3792.541	1407.151	4401.999
428.30	1206.459	2549.942	284.198	6690.196	1046.06	906.113	3407.612	2228.374	5302.12	5401.92	2542.253	664.821	2344.637	7056.209
396.31	1271.203	1680.892	1405.921	5041.138	1364.25	1840.369	2431.065	3064.36	5291.04	7379.62	1047.443	1024.837	623.145	5240.6
586.08	1309.804	1406.69	2648.366	3205.075	996.69	409.842	3652.595	4877.201	4950.25	5859.29	2142.714	1462.822	651.903	4334.487
444.14	2488.12	2650.058	668.973	8532.103	1147.71	751.711	2074.433	3254.594	4062.75	6948.25	1935.871	3039.139	1445.29	2704.344
520.42	1265.513	3022.068	1501.115	9421.915	1968.78	808.612	2864.437	2026.451	2312.19	4221.76	1363.783	1770.088	213.149	2945.021
465.67	1072.203	1574.01	382.314	4544.406	2780.62	893.195	1756.094	3217.993	3769.01	5302.12	1723.491	1043.752	210.073	5774.394
628.68	1815.456	4955.786	205.459	5851.288	987.16	1164.014	2754.94	3351.48	3571.24	5291.04	1230.296	3274.74	1867.897	3743.176
1743.95	3345.021	3271.05	2330.95	9019.146	641.91	780.777	1978.008	3836.371	2873.05	4950.25	3205.69	3249.673	3060.054	

2043.06	2631.142	4329.258	1040.215	8417.993	512.57	529.027	7169.704	4464.129	6128.57	4062.75	3478.354	573.01	906.882
361.55	4741.407	1337.639	978.854	3524.337	664.98	575.01	5382.545	5218.916	6805.23	2312.19	1629.835	843.368	3185.39
333.26	3273.818	1165.705	2009.535	4355.709	543.18	568.551	3654.441	5845.136	6600.23	3769.01	1478.662	534.256	3662.899
182.55	2797.539	5855.902	2753.71	8196.386	454.59	628.066	5695.656	3975.087	4281.43	3571.24	3486.659	1519.416	3196.463
495.04	2426.451	5918.339	1972.78	3874.664	2533.03	1082.045	7767.166	7066.513	3822.84	2873.05	1493.887	869.05	3277.662

PEG+MSC group

1923.72	589.62	6395.69	1623.07	672.82	2552.1	2392.46	244.06	5858.52	1004.08	3564.32	3013.92	5904.19	709.88	5496.19
3047.44	523.95	4895.04	3175.86	1809.46	3448.98	403.84	1284.28	9514.96	3120.34	3853.59	4953.17	4054.13	2533.18	6089.97
771.09	863.67	6552.40	1518.65	279.74	2653.44	2247.9	309.42	7529.87	4155.17	4401.08	6101.65	6015.99	2221.76	2777.39
3092.04	911.65	3960.02	148.4	3214.46	171.47	468.28	2680.05	7211.69	2417.69	2354.33	4136.26	3978.32	849.06	5277.82
2147.17	312.50	6011.23	510.88	1798.23	1159.71	1111.88	1592	7910.96	2126.57	4169.17	6350.17	6671.13	2764.01	5033.29
1776.39	682.51	3563.40	1069.28	2105.81	3978.78	1512.03	3218.92	7952.79	4175.01	2655.29	6276.97	6098.12	1825.76	5065.28
1646.14	236.99	5512.80	160.71	1705.96	3792.23	730.8	2318.65	10405.07	3225.84	1748.4	5970.93	5260.9	2296.96	4181.78
2333.56	292.04	2394.93	273.43	2724.8	2320.03	1947.56	1410.84	5787	2054.29	4118.57	7799.46	3426.53	1569.55	3466.05
1540.64	305.73	4525.49	1385.31	2467.05	4935.95	427.68	302.81	7349.33	2331.56	4300.35	4029.07	3321.49	1862.05	4841.83
1677.36	1326.41	4096.42	958.86	2394.16	3536.33	352.94	561.17	6394.93	3159.71	3003.46	6371.09	7786.39	3762.4	4052.6
2371.70	407.69	6057.06	2086.89	1116.8	2891.04	1506.04	2561.32	7639.06	3096.04	4271.9	7872.05	5147.1	1842.37	5372.4
1016.99	157.94	4009.23	322.34	2297.42	840.14	1586.93	1932.18	9308.88	2788	3277.97	6783.55	3924.03	1816.53	6643.29
2825.53	334.79	4563.63	357.55	1894.35	3633.83	254.36	983.16	7984.47	2089.2	3940.02	6565.48	5054.21	2270.36	3062.05
1585.39	658.06	4703.42	311.42	2872.74	4761.86	1705.34	2166.4	7649.21	3350.71	2568.4	2200.38	5386.85	2790	1987.08
2397.08	3855.13	4690.35	1230.91	1799.62	4363.09	318.03	2183.93	6732.64	2364.01	3319.8	5761.63	4508.57	2960.55	4737.87
1997.08	2021.84	5405.61	499.35	2606.84	2706.19	410.92	3397.77	7842.52	3265.21	1965.24	5753.33	4036.45	1329.18	1652.9
1684.28	1318.11	4540.25	194.08	1371.93	2865.51	376.16	813.69	5583.08	1994	3388.54	2279.74	4917.19	995.77	1709.5
498.58	389.24	8677.74	39.98	2499.19	3496.66	2717.26	165.17	8970.09	3134.95	7876.51	2807.07	6394.31	4870.13	3546.48
1126.49	311.27	667.13	392.31	2431.99	2759.09	190.39	1044.21	6824.14	2860.44	7826.84	4583.16	4601.31	461.05	3085.27
2256.36	1593.39	1760.86	381.24	1541.41	2962.25	1513.42	1611.69	7897.12	1301.5	7430.53	6560.09	3588	864.59	1162.01
824.76	2370.01	306.96	378.93	2119.8	3588.16	2329.87	3046.06	3763.94	3544.79	3949.25	5322.72	5680.28	902.58	629.91
650.37	3592.46	481.97	372.16	2384.31	4145.33	833.83	4027.68	8385.08	2171.63	7050.21	6549.48	2977.93	2048.14	1028.84
468.74	2311.88	2333.87	169.63	2179.93	4013.84	1317.8	3425.76	6882.12	3493.27	2865.36	6478.28	4736.95	2489.5	1351.17
375.55	468.74	841.68	1108.34	1909.27	4101.96	3367.78	3910.34	8426.91	2636.37	5868.05	6369.86	5191.85	5081.12	3998
1501.42	416.92	201.31	1496.19	1454.52	2274.97	2529.8	1158.02	6050.6	2517.03	2591.62	6584.24	5129.1	2587.31	2237.29
750.33	2188.54	562.4	511.03	312.96	4328.64	2173.78	4912.88	5468.97	2390.77	8771.55	2492.89	3905.11	3933.41	3263.82
884.28	691.12	368.94	502.11	1765.17	6574.24	2575.16	4456.29	3090.81	3622.45	6497.66	4817.07	6004.31	1932.95	5309.5
2327.87	1056.98	307.27	535.49	1288.27	3007	542.56	120.42	6663.74	2804.31	5513.73	4007.23	4947.64	4521.65	1409.3
767.40	2678.05	221.61	1487.43	344.79	3178.62	1359.48	4088.74	5789	2162.71	4781.85	5717.49	2955.02	1979.7	2384.01
452.13	4420.15	186.24	419.84	2247.9	3275.66	797.54	6714.65	2126.72	1302.27	8558.25	4525.80	4471.97	3786.39	1561.25

775.86	4489.50	1545.87	167.47	816.92	2284.97	379.39	3517.88	9197.54	2524.41	3285.35	1755.02	3203.38	2673.74	1180.78
441.37	4129.64	711.42	1497.73	1580.47	2885.66	864.59	5413.61	6282.97	1846.52	4568.09	6382.62	4712.8	2738.95	333.1
1540.95	3381.78	296.35	9378.55	907.34	3043.29	1231.53	5865.13	4075.82	3588.16	5999.08	6502.73	3858.67	2135.33	1690.43
851.21	2400.92	1347.79	1456.36	1586.93	3030.68	938.87	3726.72	5504.96	1056.52	5404.08	3862.98	4987.93	3444.21	1136.33
535.49	1320.26	301.11	6274.66	755.71	3874.36	613	6551.94	6855.82	2738.18	4476.43	5680.12	6065.82	1630.14	1188.16
1015.92	3631.53	236.06	1632.45	2531.8	5192	562.4	4409.23	6282.35	1118.03	8539.64	2802.77	5015.3	3374.7	1405
736.33	4929.95	331.87	2799.08	2511.03	3333.79	135.02	7307.65	2302.35	2211.3	5892.50	4259.75	4391.7	1496.19	970.86
1679.51	4904.88	1274.59	2782.16	2031.06	3204.15	277.89	4620.22	6776.47	2217.15	3503.88	4387.24	4348.64	3259.21	585.31
967.32	4604.08	1221.53	865.51	2366.47	2633.91	423.07	5151.71	5992.46	2691.73	5225.68	4492.27	1538.02	3261.51	874.43
1753.02	3308.42	1194.16	2695.12	1972.78	2859.82	179.93	4987.16	6818.76	1359.78	1103.73	4093.35	4900.27	3597.08	1179.7
4203.00	3136.33	1227.37	1941.71	1936.64	3780.85	271.28	5194	6818.76	2684.35	907.19	4384.78	4485.81	3839.14	695.58
3719.95	3432.68	319.11	3709.5	1487.89	3458.21	352.79	5309.34	4962.09	2226.99	966.09	5429.3	1496.04	2370.17	968.09
1780.39	3503.73	2291.89	514.57	2075.66	4232.68	3444.68	3670.59	7070.67	2730.64	787.70	3732.26	2247.9	1052.67	2702.81
1148.94	3801.92	281.89	761.86	1968.01	3299.96	556.4	3362.09	1165.71	2984.54	746.64	6868.28	2672.82	1911.57	781.08
1309.34	2993.31	866.28	198.54	2268.82	4596.69	3883.58	2797.69	7913.73	2370.17	398.92	2203	3444.06	797.54	5184.31
1913.57	627.30	791.08	3035.6	2086.74	3860.36	2464.44	3660.44	6696.66	2837.83	765.09	3938.49	3398.54	141.79	4074.43
2098.73	4399.39	2404.61	5609.84	2060.44	3839.29	5274.13	4863.67	7842.06	1431.14	687.58	3078.97	3490.2	3115.72	5041.45
2195.31	2252.67	749.71	5550.48	2025.22	4985.77	3192.16	3873.89	6378.01	2012.61	342.48	3854.21	3878.82	3220.92	3188.93
1722.41	677.59	1034.37	6046.44	2375.86	3932.03	3701.81	3996.16	6047.83	2529.49	430.30	4080.43	3935.72	2612.23	1379.62
1635.06	305.11	1224.45	8399.38	2656.52	3908.5	288.2	5302.73	6040.14	3761.78	202.08	3568.63	3872.82	3393.77	2791.54
1120.80	765.40	744.33	2378.01	1949.56	4077.05	4051.98	3725.95	6438.45	2964.09	246.06	4477.35	2970.86	2106.27	3021.45
1174.47	2111.80	1262.9	4231.14	2529.8	3722.41	4456.75	4320.65	7797.46	2368.78	383.85	3545.56	4275.59	2176.55	4526.72
1797.92	429.53	745.25	2196.39	1834.68	3110.5	4201.46	4405.54	7089.27	3945.41	166.55	4442.75	4486.89	2786.77	4306.34
1558.17	381.70	1788.24	4693.73	2619.45	3853.29	5543.1	3463.59	6091.2	2286.81	614.07	3845.91	917.34	1753.63	3097.89
2443.98	190.39	2882.74	6091.04	2616.84	2697.12	4424.76	6447.67	4806.92	1866.36	564.86	5963.09	5605.07	1556.94	303.11
467.97	110.42	2129.49	5297.65	1866.67	3858.05	4063.51	3206	4359.71	3427.3	381.70	3682.74	560.86	2357.86	874.28
1314.73	221.15	3809.3	2659.9	2082.43	3350.56	3593.39	4638.37	4321.11	2501.19	266.05	2873.51	1070.97	3217.84	2370.01
2096.42	4740.48	4122.57	7596.62	441.21	3976.47	4394.77	5876.82	2228.22	3110.19	459.82	4671.28	1102.81	336.95	3361.01
2632.99	3611.38	3119.57	6612.23	2013.69	2665.44	3710.88	4584.24	1880.05	3221.53	641.75	4421.22	1581.39	1073.89	3245.06
839.99	3081.12	923.18	7726.26	483.51	4091.35	4022.45	4900.58	3786.39	4010.3	275.89	3233.22	1238.6	776.32	4720.03
1413.76	3265.05	1272.9	7810.69	1810.69	3717.03	3553.71	5583.08	3946.02	2875.51	252.83	3411.76	439.06	845.52	4872.74
2265.74	4632.22	1705.81	11156.94	2767.09	3276.43	2883.97	5536.64	5328.57	3930.03	346.18	4591.16	367.86	1354.09	4398.46
1287.20	4750.79	873.51	1625.22	2550.56	3342.41	3584.01	4644.21	2877.05	1081.58	547.48	4828.14	796.31	1353.33	5082.81

420.76	5367.63	194.23	5739.64	1180.93	2560.09	3955.86	4812.15	3285.2	1547.56	437.68	4517.19	1006.38	971.93	6844.14
1500.04	5242.45	714.19	3271.36	2494.27	2651.44	4750.94	3280.58	4477.66	3052.98	498.58	7075.89	2706.81	522.11	6054.29
995.31	6382.47	1946.17	7745.48	2525.95	3879.12	4136.26	3789.62	3504.5	4032.14	442.60	1255.21	959.17	1436.83	4995.46
856.75	4131.64	1394.08	5107.27	1839.29	2747.87	2066.13	4039.06	3702.27	1844.52	463.36	3281.66	584.7	460.44	1652.44
1779.01	3739.02	110.42	9211.07	1765.78	3642.91	607.77	5154.02	3611.53	2471.51	278.82	5533.72	396.62	244.37	4832.45
716.03	1210.46	163.17	8514.73	463.67	4637.45	372.93	3513.26	3739.79	2220.68	381.55	4617.15	323.26	1484.51	5238.29
1529.10	650.52	449.37	4372.63	2657.9	3316.26	2838.29	2734.79	4441.68	2767.4	7670.74	3930.33	1134.95	1255.06	2386.77
3828.84	437.22	2156.09	5025.61	674.51	3435.6	3454.83	4251.6	4977.62	3458.05	5357.94	4148.4	1876.05	2773.39	3833.45
1334.56	596.23	1478.66	10261.44	785.08	3826.22	1419.61	4998.23	4561.32	3211.53	7071.59	6579.62	1743.64	1006.84	1319.49
2086.89	571.47	885.97	3571.24	2147.02	3592.62	1115.26	1709.96	2941.64	2456.75	5811.15	4745.25	421.99	948.71	4421.68
1081.58	1164.32	2158.55	4530.26	2630.22	3401.15	509.5	5375.47	3628.45	1788.39	8154.25	3877.89	530.41	2305.57	2104.27
2377.24	622.99	1265.97	6282.97	2476.43	3433.29	7972.16	8251.6	4709.73	3021.76	2216.69	5646.91	688.97	617.76	7302.58
787.54	1027.61	565.78	6390.16	1946.02	4273.74	5578.78	2813.07	2997.62	3536.18	7322.57	4071.82	382.47	1557.09	3084.35
1307.04	458.90	503.5	5743.02	2327.41	3682.28	5832.99	2327.72	4505.04	483.2	3569.40	5281.81	878.12	1466.82	5475.43
780.78	1410.23	2621.91	8405.07	3081.28	4583.62	3121.11	3036.06	4095.35	3925.11	2983.01	2442.14	794.16	1188.62	2908.27
2187.01	557.32	290.81	5512.19	3874.51	2050.6	4271.59	6187.62	3645.83	1670.9	5854.06	3779.16	339.56	2019.38	4076.74
770.63	312.03	632.83	3904.34	2300.96	244.06	4558.25	4917.03	3885.27	3591.39	3986.62	3416.84	420.61	972.7	6495.19
4204.08	366.63	308.65	7142.64	3327.49	4040.91	6613.76	5623.22	2994.39	2051.83	5280.58	2140.25	393.39	257.13	1392.85
1253.21	876.13	880.89	5324.72	3197.08	2081.2	5632.45	5205.07	2903.34	3037.75	5242.14	3247.06	589.93	286.66	3666.28
465.51	480.74	465.67	7056.21	3884.35	4227.14	5750.87	6516.72	3237.83	4110.88	5486.66	2964.4	286.81	1061.59	5490.04
707.27	348.33	1480.82	6470.28	2495.35	3532.03	3167.86	5217.53	3802.85	3322.57	5643.68	4840.14	1140.02	1929.26	5879.43
716.96	210.38	446.14	6401.54	3512.03	3657.67	7570.17	5558.17	3659.21	1457.13	7848.67	3073.59	638.99	2654.67	1344.41
988.70	359.25	555.94	3216.92	2658.82	3113.42	7782.7	4597.77	5060.05	3543.87	2410.92	4813.38	633.29	233.29	5002.69
1006.84	444.75	434.6	6845.06	2625.45	2585.31	2735.41	4418.15	3640.6	3126.95	8285.89	2662.51	364.78	748.64	6305.57
766.01	439.37	484.74	6555.94	5097.42	3664.13	893.96	4430.45	3736.41	3059.44	4651.29	4150.56	1276.89	2556.56	5924.8
1793.77	7163.25	188.24	2926.57	3490.04	2857.52	1363.17	5185.39	3519.88	3582.78	6374.47	2563.01	1052.36	1871.28	4319.26
2388.31	5460.52	283.43	4737.1	4412.3	3421.45	2223.91	7843.14	4142.1	3112.19	3915.57	5147.87	921.34	640.06	6486.89
1181.08	5336.56	1008.23	5033.91	2804.92	3015.61	1672.13	4427.07	3933.87	3675.05	7120.03	5147.25	920.42	2342.02	6005.23
1132.33	5241.06	1559.55	8110.42	4264.21	2334.64	2456.9	7468.05	3513.57	3356.56	7467.90	6037.99	7008.23	2317.88	5678.12
2414.46	8947.79	2039.22	7027.6	4545.48	978.24	850.44	4784.16	5088.04	2426.14	5200.77	5682.43	6276.36	1532.03	5660.9
823.53	6080.58	409.23	5550.02	2580.85	263.59	1885.58	4930.57	4419.07	1960.63	2818.15	6028.14	1799.15	612.38	6543.18
2068.13	4776.62	328.95	8600.08	4157.48	407.69	318.65	4868.9	4195.92	4889.81	2838.45	4558.71	3089.58	2286.97	5667.05
591.31	6490.43	2465.67	2222.07	1003.61	200.85	4318.19	5220.61	3887.27	5295.96	7399.77	4683.12	3060.82	1159.25	4168.4

655.29	3956.79	430.14	4233.76	3729.64	195.62	3799.46	7328.26	4339.1	2770.32	4572.55	8925.34	1629.53	2569.63	6938.25
925.18	4370.78	64.28	6992.23	3887.58	200.08	1942.02	5583.7	3635.52	4655.29	2328.95	4529.64	1403.61	1261.51	3709.96
1010.23	5067.13	98.73	6441.06	2947.79	271.28	2867.2	4284.51	4199	2449.83	8819.84	5989.54	2156.56	1728.41	4200.38
1888.20	7263.98	221.3	4532.1	4079.2	357.4	1576.32	6106.11	4583.93	3830.07	2655.13	4065.36	1690.89	860.28	5159.09
845.21	5515.11	806.46	6748.79	1923.41	725.26	332.03	4280.97	3968.47	3347.79	4599.00	5258.75	2380.16	2464.59	4771.4
382.31	5051.90	2644.68	1813.3	3233.99	123.34	815.99	9289.66	3266.59	4308.8	5963.55	3954.17	2781.08	2452.13	6564.86
495.96	3121.88	201.77	2202.85	2688.5	499.81	3351.79	6232.83	4003.54	4049.37	6868.13	4286.35	3554.48	3279.82	
461.52	4149.17	1188	1300.58	2664.36	232.37	1681.51	2222.22	4251.29	3238.29	6285.28	6536.1	4197.15	736.79	
778.62	4793.08	1403.15	1386.24	2228.53	386.01	2128.87	6363.24	3997.85	3317.65	4441.22	4635.76	3117.11	4549.48	

SAL

Bin	*Frequency*	% Myofibers
500	322	17.89
1000	493	27.39
1500	357	19.83
2000	213	11.83
2500	157	8.72
3000	91	5.06
3500	61	3.39
4000	40	2.22
4500	26	1.44
5000	15	0.83
5500	9	0.50
6000	7	0.39
6500	5	0.28
7000	2	0.11
More	2	0.11
	1800.00	

PEG

Bin	*Frequency*	% Myofibers
500	337	24.58
1000	279	20.35
1500	202	14.73
2000	183	13.35
2500	120	8.75
3000	87	6.35
3500	58	4.23
4000	35	2.55
4500	30	2.19
5000	17	1.24
5500	9	0.66
6000	6	0.44
6500	4	0.29
7000	2	0.15
More	2	0.15
	1371.00	

MSC		
Bin	*Frequency*	% Myofibers
500	201	10.03
1000	327	16.32
1500	251	12.52
2000	179	8.93
2500	142	7.09
3000	159	7.93
3500	140	6.99
4000	126	6.29
4500	102	5.09
5000	93	4.64
5500	89	4.44
6000	71	3.54
6500	41	2.05
7000	30	1.50
More	53	2.64
	2004.00	

PEG+MSC		
Bin	*Frequency*	% Myofibers
500	172	10.94
1000	147	9.35
1500	121	7.70
2000	113	7.19
2500	145	9.22
3000	122	7.76
3500	127	8.08
4000	136	8.65
4500	116	7.38
5000	91	5.79
5500	67	4.26
6000	52	3.31
6500	52	3.31
7000	36	2.29
More	75	4.77
	1572.00	

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